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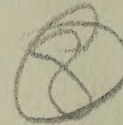


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**GREATER TORONTO AREA (GTA)**  
**REPORT OF THE GTA HOUSE FORMS  
AND DENSITIES STEERING COMMITTEE**

**December 1993**

**Prepared By:**

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# **EXECUTIVE SUMMARY**

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**REPORT OF THE GTA HOUSE FORMS AND DENSITIES STEERING COMMITTEE**



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## EXECUTIVE SUMMARY

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The Province of Ontario's *Land Use Planning for Housing Policy Statement* indicates that municipalities plan for a range and mix of housing to meet a full range of housing needs. Since the Policy Statement's announcement in 1989, municipalities and the private sector, particularly in the Greater Toronto Area (GTA), have experienced difficulties in clearly identifying a range of affordable ownership housing which could meet identified needs.

Initiated by the Ministries of Municipal Affairs and Housing, and co-ordinated by the Region of Peel Housing Opportunity Centre, this project was undertaken to try and address this challenge. The purpose of this study is to develop and apply a comprehensive methodology to assess the housing needs of moderate income households (those between the 30th and 60th income percentile) and translate them into a range of affordable and marketable ownership house forms which could be produced in a municipality by the private sector. The study is meant to complement existing municipal housing studies and statements, and provide insights with respect to future housing needs analysis.

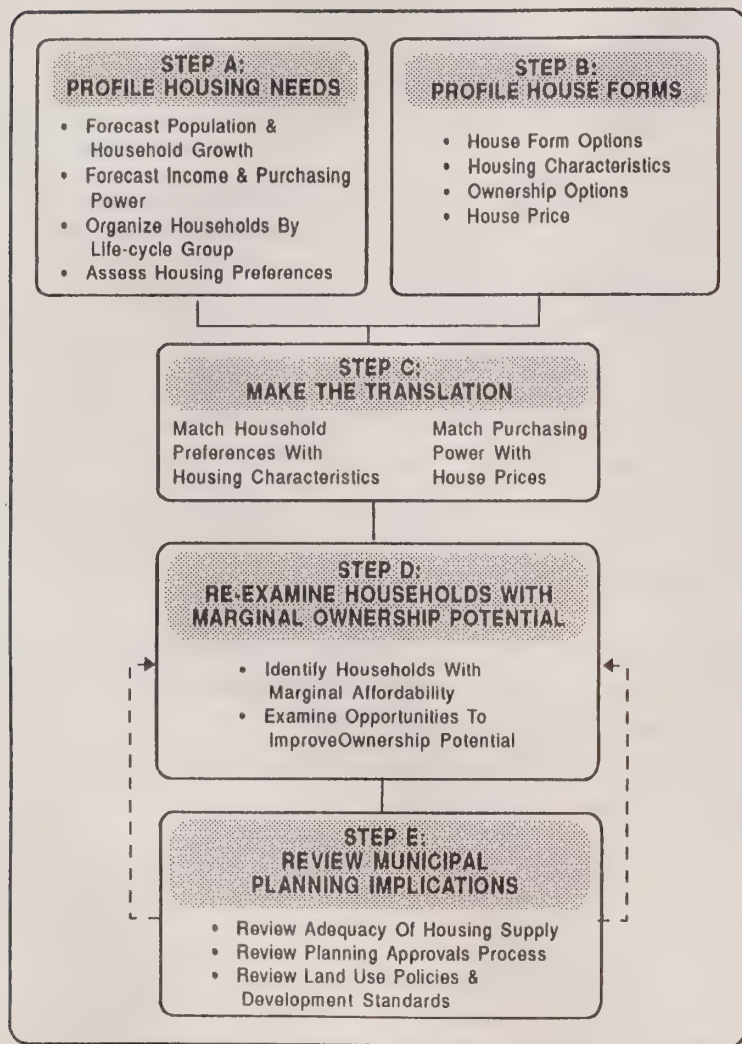
The Steering Committee established to manage and guide this project has broad representation from the province (Office of the GTA, Ministries of Housing and Municipal Affairs); each of the GTA's regions (Halton, Peel, York, Durham, Metropolitan Toronto); one local municipality (Richmond Hill) and the real estate and development industries.

The Steering Committee is also responsible for developing and implementing a strategy to communicate this report to municipalities, the public and other audiences in the public and private sectors with interests in housing.

Although the approach described in this report could be used by a municipality at either the regional or local level, the Steering Committee chose to use a local municipality to apply and illustrate it. Through the Region of York, the Town of Richmond Hill agreed to be the local area case study. Richmond Hill also became the local municipal representative on the Steering Committee. While their participation was valuable, Richmond Hill is under no obligation to follow through with any of the report's hypothetical findings and, indeed, no conclusions are drawn that are specific to Richmond Hill.

The report suggests using a five-step approach to assess moderate income housing needs and translate them into affordable ownership house forms. The five general steps are highlighted in the figure on the next page and are briefly described as follows:

## The Suggested Approach: Translating Housing Needs Into House Forms



## STEP A: PROFILE HOUSING NEEDS

This first step outlines a way to assess moderate income (30th to 60th income percentiles) housing needs for a municipality within the Greater Toronto Area (GTA) over the next five years. As mentioned earlier, the focus is on ownership housing developed by the private sector. While Richmond Hill has been used to illustrate how the analysis could be carried out, the methodology can be used by other municipalities. Rental housing opportunities could also be examined to more thoroughly assess the full range of municipal housing needs.

To illustrate how the approach could work, a hypothetical five-year forecast of households and income has been prepared. This income forecast is used to estimate a household's future purchasing power based on certain affordability guidelines.

Households could then be organized into "life-cycle" groups by the age of the household head. This is not a new concept. Although there are limitations associated with categorization, there are general characteristics influencing housing choices that tend to occur as households age. For the purpose of illustration, the study team defined six household life-cycle groups, although such groupings could be refined and tailored to suit the needs of any particular municipality. Housing preferences particular to a household life-cycle group should also be assessed. A "housing needs profile" is the end product of Step A. An example of such a profile is provided for a "Younger Household (25-34 years old)" in Richmond Hill to illustrate what type of information the profile could contain (see Step A.3, Section II).

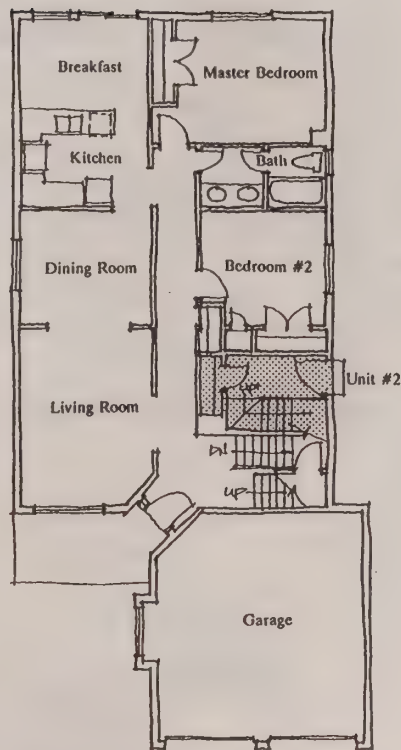
## STEP B: PROFILE HOUSE FORMS

Step B identifies and broadly assesses a range of house forms currently available within the GTA. This step could proceed concurrently with the profiling of housing needs in Step A.

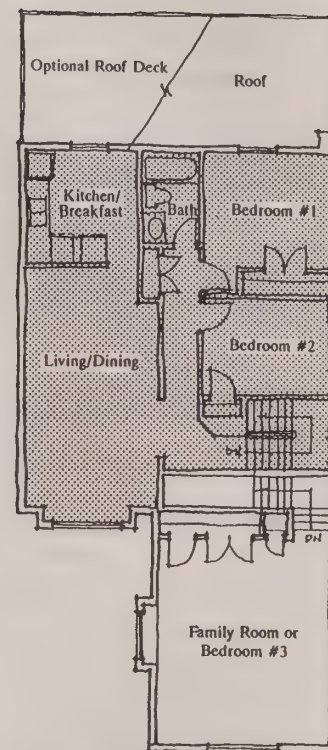
After identifying a range of house forms, the characteristics, ownership options and house price are profiled. The suggested approach uses a house forms matrix to summarize this information.

Two of the more innovative house forms in the GTA described in this report, a "convertible" single-detached house and a "wide-shallow" semi-detached house, are shown in the following illustrations. Both of these house forms are marketable and affordable to many moderate income households, and can be provided at a relatively high net residential density (17-20 units per acre).

### Single-Detached House With Accessory Apartment - A "Convertible House"



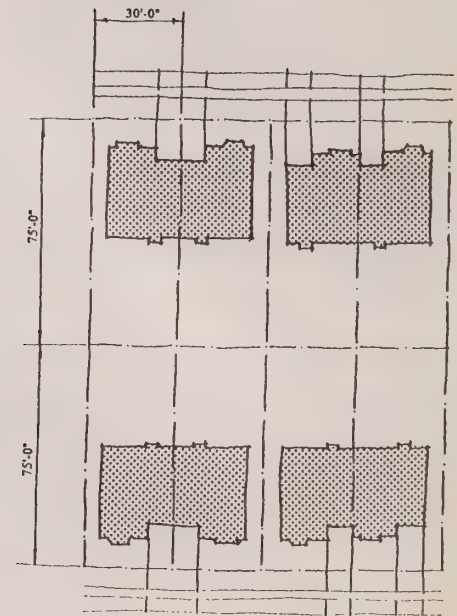
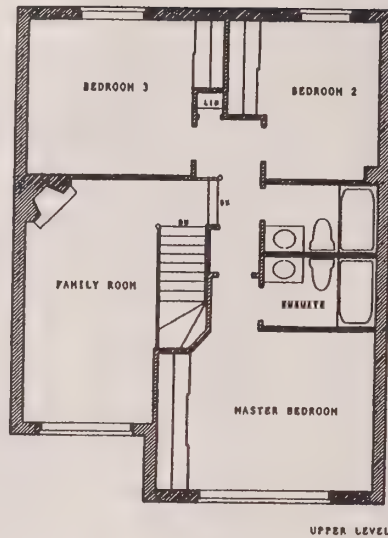
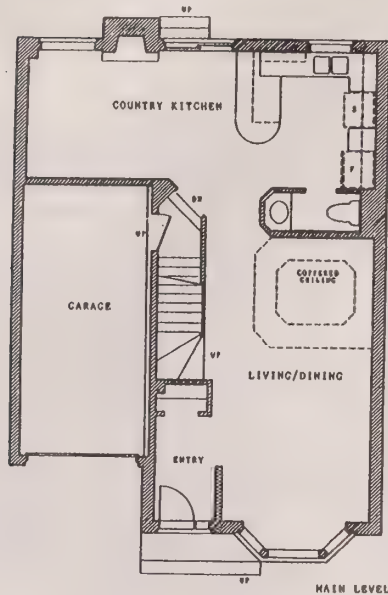
GROUND FLOOR PLAN



SECOND FLOOR PLAN

 ACCESSORY APARTMENT

# "Wide-Shallow" Semi-Detached House



## **STEP C: MAKE THE TRANSLATION**

This step illustrates a way to translate identified housing needs into appropriate and affordable ownership house forms. The linkage is made by comparing the housing needs profile prepared by life-cycle group (Step A) with the house form profile (Step B). This matching of housing supply and demand is the linkage. It addresses how well the house form characteristics match household preferences while also assessing if the house price fits the purchasing power of households within the life-cycle group. The report uses one hypothetical Richmond Hill life-cycle group to illustrate how the approach could work. This example is illustrated on the next page.

## **STEP D: RE-EXAMINE HOUSEHOLDS WITH MARGINAL OWNERSHIP POTENTIAL**

Having translated housing needs into house forms for all moderate income household life-cycle groups, there will likely be some households whose ability to own a home is constrained due to a lack of purchasing power. In this step, it is important to identify those households so that further analysis could be undertaken focusing on potential opportunities to improve home ownership affordability.

## **STEP E: REVIEW MUNICIPAL PLANNING IMPLICATIONS**

In this final step, municipalities could examine the planning implications associated with using and applying the suggested approach. This could include reviewing the adequacy of the housing supply based on the anticipated housing needs

profile. It could also involve reviewing the existing planning approval process, and examining land use policies and development standards to ensure that they encourage the development of an appropriate range and mix of affordable ownership housing.

Each of these steps is described in more detail in Section II of the report.

Although the housing needs methodology was illustrated at a local municipal level, it could also be applied at a regional scale. Similarly, while the approach used to translate housing needs into house forms was described using one household life-cycle group, it could be applied to the other life-cycle groups in the same manner as in this report.

Having undertaken this study, some of the key realizations are:

- It is possible to develop a relatively fine-grained mixture of affordable house forms which have relatively high net residential densities in a range of physically compatible built forms. Single and semi-detached housing can be developed as densely (i.e.  $\pm 20$  upa) as some townhouse and low-rise apartments. This suggests a need to re-think the way traditional low, medium and high density residential land use designations and zoning are approached;
- There is a wide range of house forms presently being developed in the GTA which could likely meet the housing needs of most moderate income family households. Some non-family households (i.e. single



persons) and single-parent families face obstacles to home ownership, particularly toward the low end of the moderate income range (i.e. 30th percentile). Opportunities to improve home ownership and enhance affordability for these households should continue to be examined;

- The lack of wide-spread development of some of the more innovative house forms suggests potential opportunities for their greater use throughout the GTA, through both the intensification of existing communities and the development of new communities; and
- There are ways of assessing municipal housing needs which consider broader population and household trends. Housing needs can be profiled from both a quantitative and qualitative perspective, and can provide insight into the future orientation of a municipality's housing market. However, as some of the forecasting assumptions involve sensitive issues and steps, it would be inappropriate for a municipality to set rigid housing targets through prescriptive planning policy. Rather, having prepared a housing needs profile, it may be more appropriate to use the information to establish flexible guidelines regarding the type and amount of housing which could accommodate the profiled housing needs of the municipality. Provision of the needed house forms could then be encouraged through communication with the development industry and elimination of potential planning policy and development standards

which may be impeding the production of those forms.

The Steering Committee should take a leadership role by developing and implementing a strategy to communicate the results of this report, including the methodology. The strategy should consider potential ways to address some of the information barriers described in this report, such as:

- Establishing moderate income household preferences, and acceptable compromises, across the GTA and its sub-markets;
- Developing a comprehensive approach to gathering price information across the GTA and its sub-markets;
- Examining the role of the resale housing market in establishing the need for new affordable ownership housing across the GTA and in its sub-markets; and
- The need for special Census information requests from Statistics Canada (e.g. household and family composition, occupancy and income data) organized by age group to facilitate the completion of housing needs profiles.

The communication strategy should also acknowledge this study's relationship and usefulness to other relevant studies including, but not limited to:

- The Urban Density Study being undertaken by the Office For The Greater Toronto Area and the Ministries of Housing and Municipal Affairs;
- A study being undertaken for the Ministry of Housing outlining an appropriate way of determining housing needs (all incomes) across the Province; and
- A study being undertaken for the Ministries of Housing and Municipal Affairs examining Alternate Development Standards.

The Steering Committee should also consider how to prepare and distribute information related to affordable house forms, perhaps by co-ordinating municipal and public workshops, and/or through promoting the establishment of public-private partnerships to undertake examples of new housing developments ("demonstration projects"). This would ensure a more consistent approach towards the design, marketability, community acceptance and cost related to the wide range of house forms highlighted in this report throughout the Greater Toronto Area.

Municipalities examining this report could take the following steps in an effort to apply the suggested approach:

- Review the adequacy of their housing supply based on anticipated needs; and
- Review the existing planning approvals process and development standards to ensure that they encourage a range and mix of affordable and marketable ownership house forms.

# I INTRODUCTION



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## I INTRODUCTION

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This section introduces why this project was initiated, who guided and was involved in it, and how the report is organized.

### A. WHY WAS THIS PROJECT INITIATED?

The Ontario Government's 1989 Policy Statement on Land Use Planning For Housing establishes "provincial expectations" with respect to housing issues which can and should be addressed through municipal land use planning. The Policy Statement focuses on the housing needs of low and moderate income households. The objectives and principles serving as its basis are outlined in Figure 1.

To effectively implement the Policy Statement, municipalities at both the local and regional level need an appropriate way to assess housing needs and translate them into appropriate house forms.

However, experience to date suggests that this has not been easy, particularly as it relates to providing affordable ownership housing for moderate income households. There are at least three reasons for this.

Figure 1: *Province's Policy Statement On Land Use Planning For Housing Objectives And Principles*

**Objectives:**

- A. To foster municipal land use planning practices which are responsive to housing needs throughout the Province.
- B. To contribute, along with other provincial initiatives, to the overall goal of providing a sufficient supply of a range of housing types which are accessible, affordable, adequate and appropriate to the needs of the full range of households in Ontario.

**Principles:**

- A. Each planning jurisdiction has a responsibility to contribute to fulfilling the objectives of the Policy Statement.
- B. A sufficient supply of land for housing purposes should be planned for in order to help make land available for development at a more reasonable cost.
- C. The planning approvals process should be streamlined to help reduce the cost of housing by allowing the market to respond effectively to housing demands and to reduce the land carrying costs associated with housing construction.
- D. Land use regulations should allow for a full range of housing types and sizes in order to provide the opportunity for more households to be appropriately and affordably housed.
- E. New residential units should be planned for in established communities in order to produce housing efficiently and cost-effectively by maximizing existing resources, both in building stock and community and physical services.

Source: Province of Ontario, July 13, 1989. *Land Use Planning For Housing Policy Statement*, p. 4.

First, the assessment of housing needs, typically done through municipal housing statements, often tends to be somewhat parochial. Growth pressures in the Greater Toronto Area, however, have little regard for political boundaries. Municipal housing needs analysis sometimes has regard for broader market demand but such pressures are not often integrated with local forecasts. Second, many municipalities and developers have encountered challenges in clearly defining a role for the private sector in providing a range of affordable ownership housing. Also, the translation of housing needs into a range of affordable ownership housing has not often been done in a way that facilitates the development of responsive local land use policies and regulations. Finally, the term "housing needs" itself, while widely used, is not well-defined. Indeed, the term "need" can be used with varying degrees of intensity, from an indispensable sense of urgency to a less intense feeling of desire. Housing decisions, particularly for many moderate income households, are the result of a trade-off between preferences and the ability to pay. For households with choices, the term "need" is a difficult one to apply and assess.

Initiated by the Ministries of Housing and Municipal Affairs, and co-ordinated by the Region of Peel Housing Opportunity Centre, this project was undertaken to address these challenges. The purpose of this study is to develop a methodology to assess the housing needs of moderate income households and translate them into a range of affordable and marketable ownership house forms which could be produced in a municipality by the private sector. It is meant to complement existing municipal housing statements and assist with future housing needs analysis.

Early in the study, it was recognized that while designing an effective approach to translate housing needs into affordable ownership house forms was possible, the relative imprecision of a number of steps in this methodology meant that the approach should not be used in a prescriptive and rigid manner.

## B. WHO WAS INVOLVED?

A Steering Committee was set up to manage and guide the project, provide information and advice, and to take a leadership role in developing a strategy to communicate this report to the public and a variety of audiences in the public and private sectors with interests in housing.

To ensure that the report's approach and findings would be useful and easily understood, representation on the Steering Committee was quite broad. Its composition is shown in Figure 2. Individual members of the Steering Committee are identified in Appendix A.

In addition, a "Core Liaison Group", a smaller coordinating body of the Steering Committee, was established to provide technical information and guidance, as necessary, to the study team.

Although the approach described in this report could be used by a municipality at either the regional or local level, a local municipality was used to illustrate it. Through the Region of York, the Town of Richmond Hill agreed to be the local area case study. While their participation was valuable, Richmond Hill is under no obligation to follow through with

any of the report's findings and, indeed, no conclusions are drawn that are specific to Richmond Hill.

Figure 2: Study Steering Committee Composition

STEERING COMMITTEE REPRESENTATIVES
Chair:
Regional Municipality of Peel, Housing Opportunity Centre
Province of Ontario:
Ministry of Municipal Affairs
Ministry of Housing
Office for the Greater Toronto Area
Regional Municipalities:
Regional Municipality of York
Regional Municipality of Durham
Regional Municipality of Peel
Regional Municipality of Halton
Municipality of Metropolitan Toronto
Local Municipality:
Town of Richmond Hill
Real Estate And Development Industries:
Ontario Real Estate Association
Ontario Home Builders' Association
Greater Toronto Home Builders' Association
Urban Development Institute

C. THE REPORT'S ORGANIZATION

This report provides an example of a way to assess the housing needs of moderate income households in a municipality and translate them into marketable and affordable ownership house forms.

The report is organized into three general sections as follows:

- I Introduction
- II The Suggested Approach
- III Conclusion

The bulk of the report is oriented towards explaining the suggested approach and how it could be applied. *Appendix A* identifies individual members of the Steering Committee. *Appendix B* provides a more detailed summary of the housing needs forecast, including key issues, the example forecasts, data requirements, and information sources. A glossary of key terms used in the report is provided in *Appendix C*.

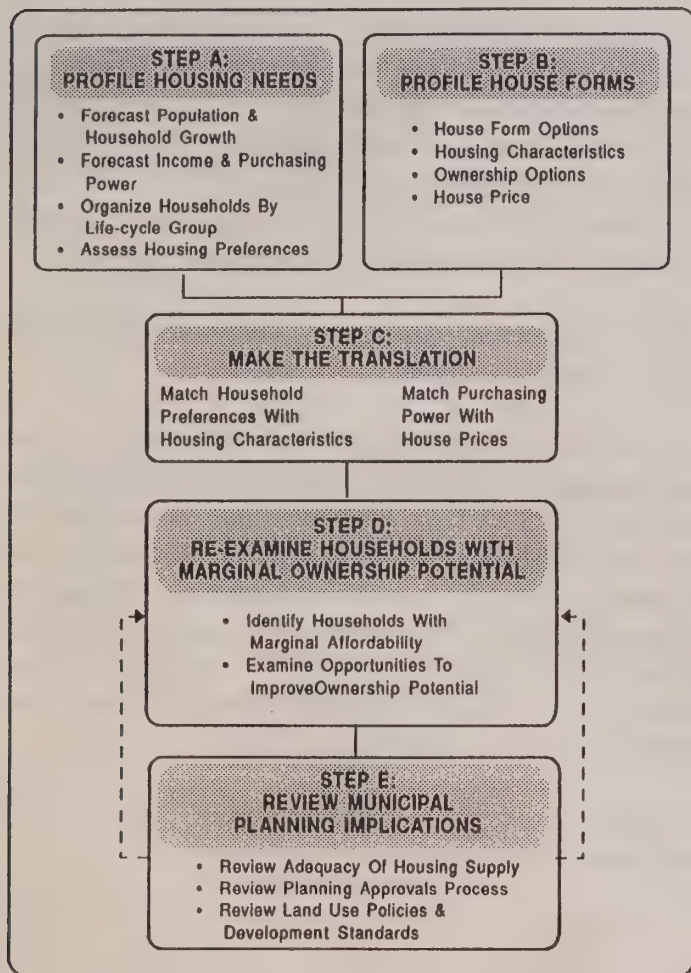


## **II THE SUGGESTED APPROACH**



## II THE SUGGESTED APPROACH

Figure 3: *The Suggested Approach:  
Translating Housing Needs Into House Forms*



### AN OVERVIEW

This overview introduces the suggested five step approach which has been developed to translate housing needs into affordable ownership house forms. The following is a brief description of the suggested approach highlighted in Figure 3. A more detailed discussion of each component in the approach follows this introduction.

#### STEP A: PROFILE HOUSING NEEDS

This first step outlines a way to assess moderate income (30th to 60th income percentiles) housing needs for a municipality within the Greater Toronto Area (GTA) over the next five years. As mentioned earlier, the focus is on ownership housing developed by the private sector. While Richmond Hill has been used to illustrate how the analysis could be carried out, the methodology can be used by other municipalities. Rental housing opportunities could also be examined to more thoroughly assess the full range of municipal housing needs.

To illustrate how the approach could work, a hypothetical five-year forecast of households and income has been prepared. This income forecast is used to estimate a household's future purchasing power based on certain affordability guidelines.

Households can then be organized into "life-cycle" groups by the age of the household head. This is not a new concept. Although there are limitations associated with categorization, there are general characteristics influencing housing choices that tend to occur as households age. For the purpose of illustration, the study team defined six household life-cycle groups, although such groupings could be refined and tailored to suit the needs of any particular municipality. Housing preferences particular to a household life-cycle group should also be assessed. A "housing needs profile" is the end product of Step A (see Section II, Step A.3).

#### **STEP B: PROFILE HOUSE FORMS**

Step B identifies and broadly assesses a range of house forms currently available within the GTA. This step could proceed concurrently with the profiling of housing needs in Step A.

After identifying a range of house forms, the characteristics, ownership options and house price are profiled. The suggested approach uses a house forms matrix to summarize this information (see Section II, Step B.4).

#### **STEP C: MAKE THE TRANSLATION**

This step illustrates a way to translate identified housing needs into appropriate and affordable ownership house forms. The linkage is made by comparing the housing needs profile prepared by life-cycle group (Step A) with the house form profile (Step B). This matching of housing supply and demand is the linkage. It addresses how well the house form characteristics match household preferences while also

assessing if the house price fits the purchasing power of households within the life-cycle group. The report uses one hypothetical Richmond Hill life-cycle group to illustrate how the approach could work (see Section II, Step C.2).

#### **STEP D: RE-EXAMINE HOUSEHOLDS WITH MARGINAL OWNERSHIP POTENTIAL**

Having translated housing needs into house forms for all moderate income household life-cycle groups, there will likely be some households whose ability to own a home is constrained due to a lack of purchasing power. In this step, it is important to identify those households so that further analysis could be undertaken focusing on potential opportunities to improve home ownership affordability.

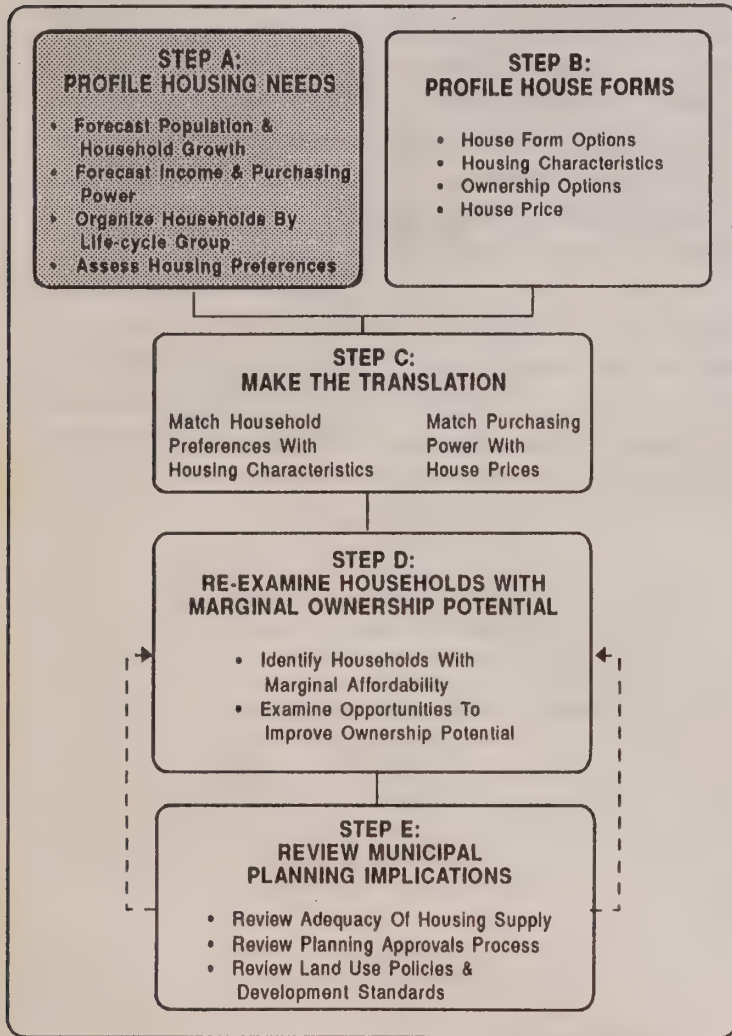
#### **STEP E: REVIEW MUNICIPAL PLANNING IMPLICATIONS**

In this final step, municipalities should examine the planning implications associated with using and applying the suggested approach. This could include reviewing the adequacy of the housing supply based on the anticipated housing needs profile. It could also involve reviewing the existing planning approval process, and examining land use policies and development standards to ensure that they encourage the development of an appropriate range and mix of affordable ownership housing.

Each of these steps is described in more detail in the following pages of this section.

## STEP A: PROFILE HOUSING NEEDS

Figure 4: Step A - Profile Housing Needs



This step looks at the demand side of the approach. As illustrated in Figure 4, a municipal housing needs profile can be developed by:

- Forecasting population and household growth;
- Forecasting household growth, income and purchasing power;
- Organizing households by life-cycle groups; and
- Assessing housing preferences.

These matters are discussed in the following sub-sections:

- A.1: The General Approach To Developing A Housing Needs Profile.
- A.2: Key Methodological Issues Related To Developing A Housing Needs Profile.
- A.3: An Example Of A Housing Needs Profile.

Appendix A provides a more detailed discussion of the housing needs assessment methodology and the results of hypothetically applying this approach in Richmond Hill.

## A.1 THE GENERAL APPROACH TO DEVELOPING A HOUSING NEEDS PROFILE

This sub-section briefly reviews a suggested way to assess moderate income (30th to 60th income percentile) housing needs for a municipality within the Greater Toronto Area (GTA) over the next five years. As noted earlier, Richmond Hill has been used to illustrate how the methodology could be applied. However, the approach could be used for other municipalities at either the local or regional level, or for a shorter or longer time frame. This section only summarizes the approach. A more detailed discussion of the forecasting methodology, its results, key issues and assumptions, data requirements and sources is provided in Appendix B.

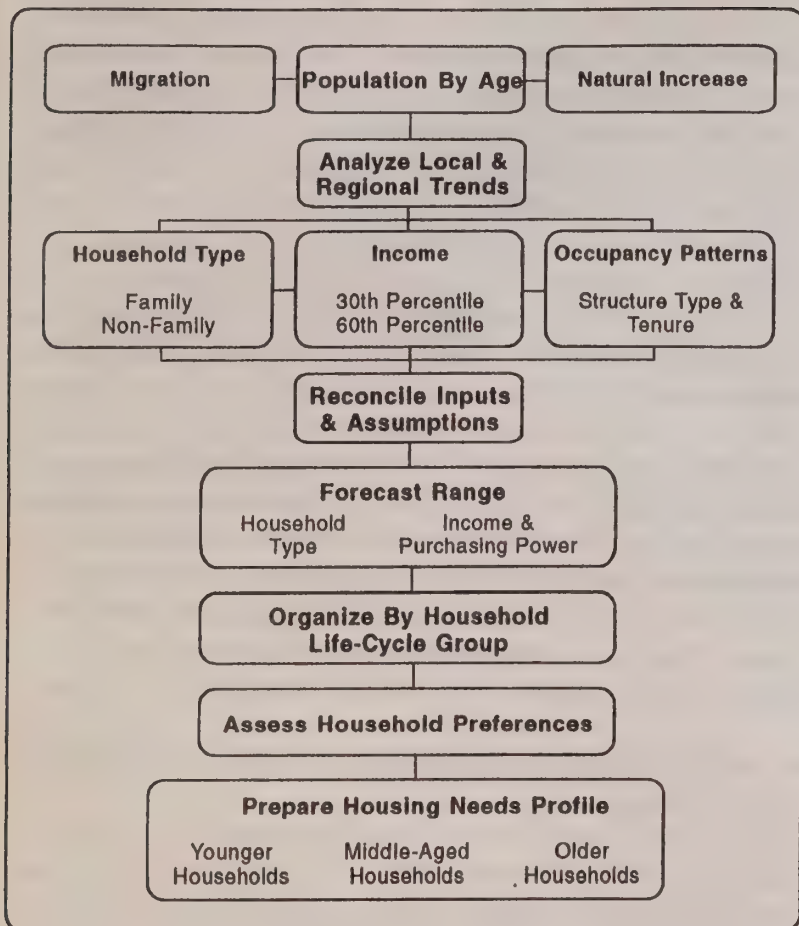
This step is aimed at producing a "housing needs profile" which could be developed through the series of steps illustrated in Figure 5. A municipal population forecast is prepared using a modified "cohort survival model", a common forecasting tool which considers population growth by age group accounting for migration and natural increase (i.e. births minus deaths). Recent local and regional characteristics and trends related to household type (i.e. family and non-family households) and family composition (i.e. with and without children, single or two parents), household income and occupancy (i.e. dwelling type and tenure) should be examined. A forecast of household growth by age group is done based on an assumed rate of household formation within the population (known as the "headship rate"). Income growth is also forecast. The income forecast is used to estimate a household's purchasing power (the ability to pay) based on certain affordability assumptions including gross debt carrying capacity, downpayment, interest

rates and period of amortization. These assumptions are outlined in Section A.2.

Household and purchasing power estimates and other household characteristics to be analyzed are then organized into household "life-cycle" groups by consolidating certain age groups. Six of these life-cycle groups were developed by the study team to illustrate this concept. They are loosely structured into three general categories: "Younger Households" (two ten-year age ranges from 15-34 years old), "Middle-Aged Households" (three ten-year age ranges from 35-64 years old), and "Older Households" ( $\pm$  65 years old).

An example of the type of information which could be contained within one of these housing needs profiles is provided in Section A.3, Figure 10. The housing preferences of the household life-cycle groups should also be analyzed and added to round out the profile.

Figure 5: *Developing A Housing Needs Profile*



## A.2 KEY METHODOLOGICAL ISSUES RELATED TO DEVELOPING A HOUSING NEEDS PROFILE

This sub-section highlights six key methodological issues related to developing a housing needs profile for a municipality. Additional discussion regarding some aspects of these issues is also provided in Appendix B.

### Issue 1:

#### *Analyzing Housing needs Is Not Simply A Technical Exercise*

Housing needs cannot be evaluated by technical analysis alone. There is a need for planning policy direction from stakeholders and there are certain issues which require resolution, preferably through consensus. Generally, the following three aspects should be considered to properly approach the assessment of municipal housing needs:

- **Technical Analysis** of recent population and household trends at the local and regional level to provide data for the forecast and housing needs profile;
- **Planning Policy** objectives and interests of the provincial, regional and local government and the development and real estate industry, which could influence the use of certain key assumptions and data, should be identified and discussed with these "stakeholders";

- **Reconcile** areas of data uncertainty and competing planning objectives and interests by bringing stakeholders together for discussion.

The first two aspects can proceed simultaneously. Additional technical analysis or policy formulation can be initiated, if needed, after bringing the stakeholders together. It is most effective to encourage key stakeholders to openly discuss key issues requiring collective agreement. Burying planning policy objectives or difficult issues requiring resolution within the technical analysis must be avoided. Non-technical issues will inevitably emerge, often in a more sensitive and high profile forum and, therefore, should be explicitly addressed. Appendix B outlines some of the key issues discussed and reconciled by the Steering Committee's "Core Liaison Group" and the study team as part of this assignment.

### ***Issue 2:***

#### ***Regional Population Outlook Is Integral To Local Housing Needs***

A methodology needs to be established which can be used to forecast population growth at the Greater Toronto Area (GTA) level. This process must consider how to distribute this growth to the regions so that they can plan accordingly. This will involve bringing provincial and regional policy makers to the table to discuss how this should be done. Such an exercise has recently been completed by the Population and Employment Sub-Committee of the Greater Toronto Coordinating Committee. The report is now available through the Office for the Greater Toronto Area.

For the purpose of this study, it is suggested that a modified "cohort survival model" be used. Local migration can be set at a level which results in population growth which is consistent with regional forecasts. Local area population growth can then be estimated by five year age groups based on natural increase (births minus deaths) and migration. The forecasting approach described in Appendix B is an example of such a model.

### ***Issue 3:***

#### ***Purchasing Power Is Sensitive To Certain Financial Assumptions***

"Purchasing power", defined as the household's ability to pay for housing, should be derived based on estimated household income and certain financing assumptions regarding gross debt servicing capacity (the maximum amount of household income available for housing payments); and the mortgage interest rate, term, downpayment and amortization (the length of time required to pay off the mortgage).

For the purpose of this study, the following affordability guidelines were used:

- 25 per cent downpayment
- 8.75 per cent interest rate
- 30 per cent gross debt servicing
- 25 year amortization

These are relatively conventional longer-term (five year) residential mortgage lending criteria for prospective

homeowners seeking longer-term financing without the need for mortgage insurance.

It must be recognized that affordability is extremely sensitive to changes in these criteria, especially interest rates. For example, an 11.5 per cent interest rate, consistent with the average annual mortgage interest rate (five-year term) between 1987 and 1992 (*Canadian Economic Observer*, 11-210, *Statistics Canada*, 1987 - 1992), would require almost 25 per cent more household income to finance a \$100,000 mortgage, all other factors being equal. An 11.5 per cent interest rate is consistent with the Ministry of Housing's 1992 Price and Information Bulletin which accompanies the Land Use Planning for Housing Policy Statement. For the purpose of illustrating the methodology in this report and given the slow economic recovery and modest real income growth anticipated over the next five years, the study team decided to use an 8.75 per cent interest rate to estimate purchasing power.

#### **Issue 4:**

#### ***Housing Needs Often Vary At Different Stages Of Life***

During their lifetime, people generally progress through many stages including: going to school; working; getting married; raising children; separation; divorce; and re-marriage. Household formation, housing preferences and purchasing power can be significantly influenced by such changes. The approach developed in this study recognizes the usefulness (and limitations) of organizing households into sub-markets for the purpose of analysis according to age. It is not a new concept. Many housing market analysts, developers and

realtors, explicitly or implicitly, often use it. The key assumption in this type of analysis is that housing behaviour and choices are generally particular to, or at least somewhat different at, certain stages of life. The risk in using this approach, as with any form of categorization, is that variation both between and within groups does occur. In practice, households cannot be so easily classified. These limitations must always be kept in mind.

To profile housing needs, households have been organized by age into the general "life-cycle" groups described in Figure 6. As noted in this figure, these life-cycle groups, including their respective age ranges and typical characteristics influencing housing choices, are adaptations created by the study team based on a review of similar approaches used elsewhere. Clearly, these life-cycle groups could be organized differently, refined and tailored to suit a municipality's particular needs. For example, municipalities with a high proportion of "Older Households" ( $\pm$  65 year old) may want to make that categorization more fine-grained.

Figure 6: An Example Of Household Life-Cycle Groups

### HOUSEHOLD LIFE-CYCLE CHARACTERISTICS

AGE RANGE	LIFE CYCLE GROUP	TYPICAL CHARACTERISTICS INFLUENCING HOUSING CHOICES	TYPICAL MARKET NICHE
15	"Younger Households"	<ul style="list-style-type: none"> <li>• Dynamic period of "firsts" (e.g. work, marriage, children, house).</li> <li>• Most rent; some prefer to; others want to buy.</li> <li>• Ownership often constrained by lack of income, savings.</li> <li>• Financial assistance from parents sometimes sought.</li> </ul>	"First Home"
25		<ul style="list-style-type: none"> <li>• Greatest diversity of household types (e.g. single, married, co-habiting).</li> <li>• Marriage and divorce rate peak.</li> <li>• Child-bearing peaks, young children at home.</li> <li>• Relatively mobile.</li> </ul>	
35		<ul style="list-style-type: none"> <li>• Greater focus on career, family-building and retirement planning.</li> <li>• Children aging.</li> </ul>	
45	"Middle-Aged Households"	<ul style="list-style-type: none"> <li>• Home ownership rate increases.</li> <li>• Divorce less frequent, but peaks again <math>\pm</math> 40 years.</li> <li>• Income rising, purchasing power peaks.</li> <li>• Relatively low mobility.</li> <li>• Accommodating aging parents.</li> </ul>	"Move-Up"
55		<ul style="list-style-type: none"> <li>• Death rate increases - widow(ers).</li> <li>• Re-marriage rarer.</li> <li>• Housing equity a major asset.</li> <li>• Few kids at home - "empty nesters".</li> </ul>	
65 +	"Older Households"	<ul style="list-style-type: none"> <li>• Very low mobility.</li> <li>• Home ownership rate still high.</li> <li>• Most hold financial assets, but income down.</li> <li>• Independent living preferred.</li> <li>• Smaller household size.</li> </ul>	"Move Down"

Source: Study team adaptation based on terms and ideas from the Steering Committee members and the following sources:

Burns and Grebler, (1986) *The Future of Housing Markets: A New Appraisal*  
New York, Plenum Press.

Brethour Research Associates Limited, (1992) *Market Study Of Alternative Development Standards*  
prepared for the Regional Municipality of Ottawa-Carleton. Ottawa.

## Issue 5:

### *Household Preferences Cannot Be Overlooked*

A critical component, often left out of the analysis of housing needs, is an assessment of what type of housing households prefer. These "wants" cannot be overlooked. Aspirations are typically realized when households have the ability to pay. If purchasing power is lower, housing aspirations are tempered either by accepting a house form which is less than desired, or by waiting until the house form is more affordable. Increased affordability can arise through external changes (e.g. lower housing prices, financial market changes such as interest rates) or through internal household changes (e.g. increased income, greater savings).

The reason why one house form is preferred over another is related to the house form's characteristics or attributes. This preference may be based on one particular attribute (e.g. the house form must be detached) or a more complex combination of characteristics (e.g. parking, size of living space, maintenance, etc.). Although an assessment of household preferences by life-cycle has not been completed in this study, some recent examples and suggestions about how housing preferences could be identified are discussed in Section II, Step D.2. (Issue 2).

## Issue 6:

### *The Role Of The Resale Housing Market Must Be Considered*

It is very important for the municipality to have a sound understanding of the role of the resale housing supply and its ability to accommodate potential ownership housing needs. For example, as illustrated in Figure 7, it is estimated that resale housing may have comprised between about 36 and 60 per cent of the total ownership transactions in Richmond Hill, assuming private sector ownership completions (CMHC data) could be used as a gauge for new home sales.

Figure 7: *Estimated Resale Market Share Of Total Ownership Transactions, 1988 - 1992, Town of Richmond Hill*

Year	New Ownership Completions <sup>1</sup>	Resales <sup>2</sup>	Estimated Resale Market Share
1988	2,644	1,463	36%
1989	3,035	1,197	28%
1990	1,299	966	43%
1991	959	1,481	61%
1992	962	1,363	59%

<sup>1</sup> Source: CMHC, *Toronto Local Housing Market Reports*, 1988 - 1992. (Private sector ownership completions are used as an estimate of new home sales)

<sup>2</sup> Source: *Toronto Real Estate Board, Market Watch*, 1988 - 1992.

In addition, recent work by Clayton Research for the Ministry of Housing found that between 1986 and 1991 resales accounted for over two-thirds of all home sales across the Province, and that the majority of both younger ("first time buyers") and middle-aged ("move-up") households purchased a resale home rather than a new home. In general, the resale market is likely to play a more important role in mature municipalities with little vacant land available for new residential growth. On the other hand, it is likely that the resale market will generally play a less significant role in communities with strong growth outlooks and an ample supply of vacant residential land.

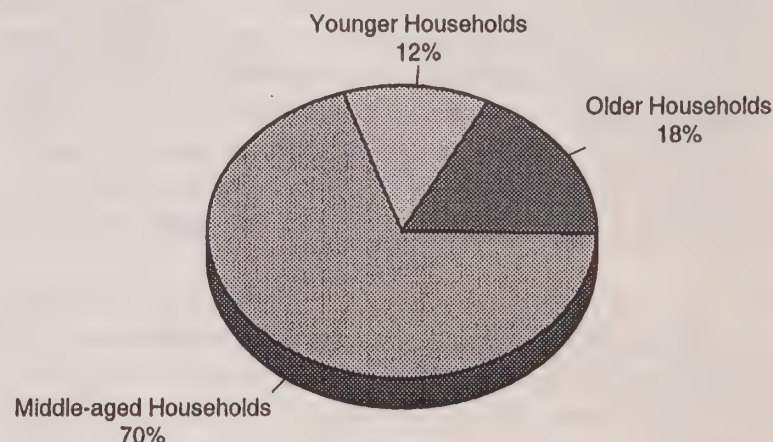
The key issue, however, is that there is not a direct "one-to-one" relationship between household growth and the need to produce new residential units. Although a municipality should take a close look at resale housing activity to gain some insights, this is a highly complex issue for which there may not be precise and predictable answers.

### A.3 AN EXAMPLE OF A HOUSING NEEDS PROFILE

This sub-section summarizes the results of a hypothetical household forecast for a municipality, in this case Richmond Hill. The approach and forecast results are explained in more detail in Appendix B. This sub-section also illustrates what a "housing needs profile" might look like for one particular life-cycle group. A "Younger Household" (25-34 years old) has been used for illustration. Following this approach, all other household life-cycle profiles could, in practice, be readily constructed.

Figure 8 illustrates the proportion of household growth which each general life-cycle group could theoretically represent in Richmond Hill from 1991 to 1996.

Figure 8: *Estimated General Life-Cycle Share Of Total Household Growth, Richmond Hill, 1991 - 1996*



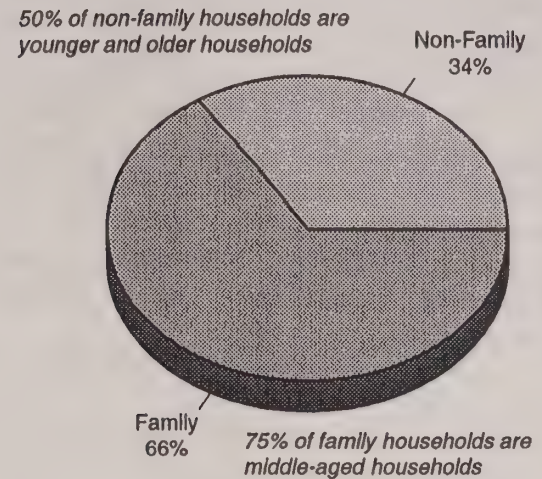
Source: See Appendix B for detailed analysis.

As detailed in Appendix B-9 (Summary Of Household Growth), of the almost 8,900 new households, about 70 per cent are anticipated to be "Middle-Aged" (35-64 years). As such, their housing needs can be expected to predominantly drive Richmond Hill's housing market over the next five years. This is a trend anticipated throughout the GTA and Canada as the bulk of the population forming households is within this life-cycle stage (the "baby boomers"). "Older Households" ( $\pm$  65 years old) and "Younger Households" (15-34 years) are expected to represent about 18 per cent and 12 per cent of the household growth, respectively.

As indicated in Figure 9, family households are anticipated to represent about two-thirds of the overall household growth in Richmond Hill. A relatively high proportion (75 per cent) of family households are expected to be "Middle-Aged Households". About 50 per cent of the non-family households are anticipated to be "Younger Households" and "Older Households".

Now, turning to a particular household life-cycle group, as indicated in the "housing needs profile" in Figure 10, it is estimated that there could be about 750 new households in the "Younger Household" (25-34 years) life-cycle group between 1991 and 1996 in Richmond Hill. This represents just under 10 per cent of the total household growth during this period. Only about one-third of those households would be families, with the balance being non-families.

Figure 9: Total Household Growth By Household Type, Richmond Hill, 1991 - 1996



Source: See Appendix B for detailed analysis

In terms of purchasing power at the 30th income percentile, family households in this particular life-cycle group could afford to buy a house priced up to about \$180,000. The affordable price increases to about \$290,000 for family households at the 60th income percentile. However, the purchasing power of non-family households is substantially lower at about \$85,000 and \$150,000 at the 30th and 60th income percentiles, respectively.

Missing from this example of a housing needs profile are data on family composition (i.e. the proportion of families with and without children living at home and the proportion of single versus two parent families) and tenure (ownership versus rental). The data, by age group and household type, is not readily available and would require a special request from Statistics Canada. However, as previously described in Figure 6, the addition of children often begins to significantly influence housing needs for this household life-cycle group. Also, the majority of households in this life-cycle group are renters, although many may want to buy. This type of qualitative and quantitative information on housing preferences would round out the life-cycle group's housing needs profile.

Figure 10: Example Of A Housing Needs Profile - Town of Richmond Hill

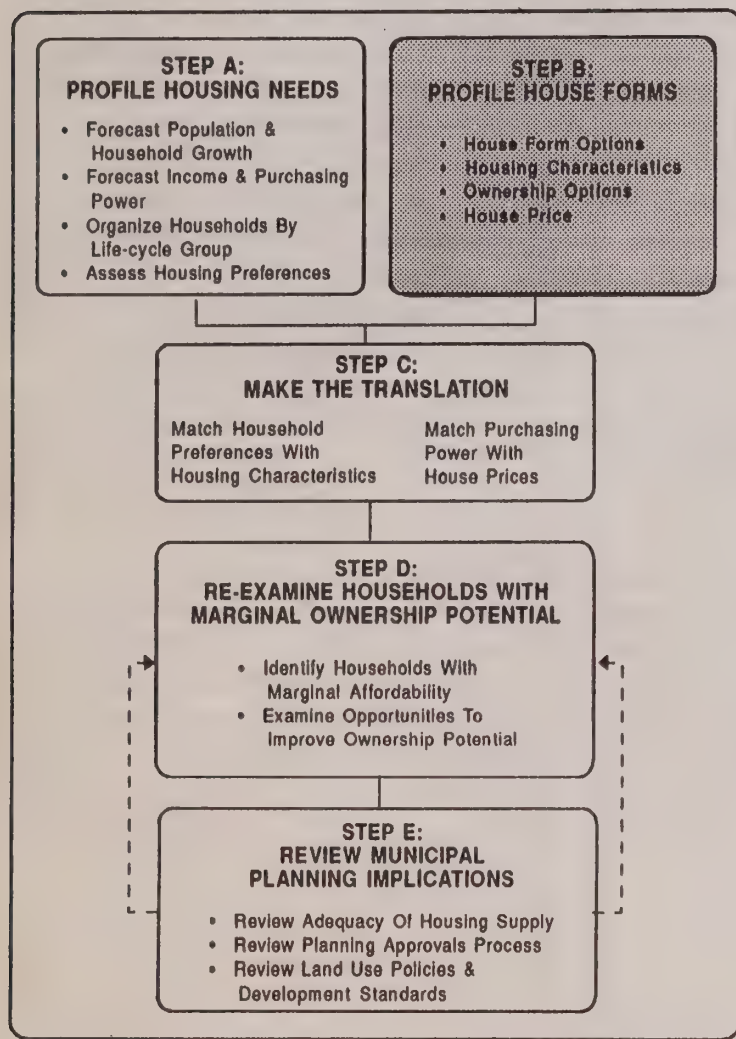
YOUNGER HOUSEHOLD (25-34 Years Old)		
Household Type		
Household Growth (1991-1996)	Non-Family Households	Family Households
750 Households	Almost two-thirds of the household growth would be non-families.	Approximately one-third of the household growth would be families.
8 % share of total growth	Non-families would therefore likely drive the housing needs of this life-cycle group.	<div>With Children: n/a % Two-Parent n/a % Single Parent</div> <div>Without Children: n/a % Families</div>
Historic Occupancy Characteristics		
House Form	41% live in street-related dwellings. <ul style="list-style-type: none"> <li>About 2/3 live in single-detached</li> </ul> 59% live in non-street related dwellings. <ul style="list-style-type: none"> <li>About 3/4 live in mid-to-high rise apartments</li> </ul>	77% live in street-related dwellings. <ul style="list-style-type: none"> <li>Over 80% live in single-detached</li> </ul> 23% live in non-street related dwellings. <ul style="list-style-type: none"> <li>About 80% live in mid-to-high rise apartments</li> </ul>
Tenure	n/a % own dwellings. <ul style="list-style-type: none"> <li>About n/a own n/a</li> </ul> n/a % rent dwellings. <ul style="list-style-type: none"> <li>About n/a rent n/a</li> </ul>	n/a % own dwellings. <ul style="list-style-type: none"> <li>About n/a own n/a</li> </ul> n/a % rent dwellings. <ul style="list-style-type: none"> <li>About n/a rent n/a</li> </ul>
Income And Purchasing Power		
Income (\$ nearest thousandth)		
@ 30th	\$ 21,000	\$ 44,000
@ 60th	\$ 38,000	\$ 72,000
Purchasing Power (\$ nearest five thousandth)		
@ 30th	\$ 85,000	\$180,000
@ 60th	\$150,000	\$290,000

Notes:

- Household growth by type, income and purchasing power are rounded estimates based on forecasts and assumptions described in Appendix B. All estimates based on hypothetical mid-points of the ranges highlighted in the forecast.
- Historic occupancy characteristics identify the general house form and type of tenure occupied by respective household types in Richmond Hill in 1991.

## STEP B: PROFILE HOUSE FORMS

Figure 11: Step B - Profile House Forms



This step looks at the supply side of the approach. It provides an example of a range of house form options currently available within the GTA. To assess the appropriateness of each house form relative to housing needs, this section also highlights a way to identify the house form's characteristics, type of ownership, and price.

Each of these aspects are discussed in the following sub-sections:

- B.1: House Form Options;
- B.2: Housing Characteristics;
- B.3: Ownership Options; and
- B.4: House Price.

The product at the end of this analysis (Step B) is a house forms matrix which is illustrated in sub-section B.4 (Figure 21).

## B.1 HOUSE FORM OPTIONS

Figure 12 provides an example of a range of house forms, from street-related to non street-related, within the GTA. These generally include *single-detached* units, *semi-detached* units and *attached* units such as townhouses and apartments. With the exception of apartments and stacked townhouses, all these house forms are situated at-grade. While some of these forms are more innovative than others, all are currently being developed in the GTA.

The variety and range of house forms within each general type (e.g. detached) is further increased when individual lot and block dimensions are considered. In addition, there are some interesting observations with respect to residential densities. For example, certain single-detached house forms (i.e. those on smaller lots and those with built-in opportunities for an accessory apartment) and semi-detached units, typically considered "low density" uses in most local Official Plans and Zoning By-laws, are being built at densities comparable to, or higher than, certain attached townhouses and low-rise apartment forms.

The house form examples on the following pages describe some of the more innovative forms in the GTA, including:

- "Convertible" single-detached house (Figure 13)
- "Interlot" or single-detached house (Figure 14)
- "Wide-shallow" semi-detached house (Figure 15)
- "Quattroplex" (Figure 16)
- "Stacked townhouses" (Figure 17)

Figure 12: Example Of The Range Of House Forms And Densities Currently Available In The GTA

HOUSE FORM		
Built Form	Lot Size Width Depth = Area (sq. ft.)	Net Density (ups)
<b>DETACHED</b>		
SINGLE DETACHED >50'	30x110 = >3300	<7.9
SINGLE DETACHED 50'	30x110 = 3300	8.0
SINGLE DETACHED 46'	46x110 = 5060	8.6
SINGLE DETACHED 46' c/w APT.	46x110 = 5060	17.2
SINGLE DETACHED 40'	40x110 = 4400	9.9
SINGLE DETACHED 40' c/w APT.	40x110 = 4400	19.8
INTERLOT 33'	33x55.75/75.50=2160	20.0
SINGLE DETACHED 32'	32x110 = 3520	12.4
SINGLE DETACHED 30'	30x100 = 3000	14.5
<b>SEMI-DETACHED</b>		
SEMI-DETACHED 30'x2	30x110 = 3300	13.2
SEMI-DETACHED 30'x2	30x100 = 3000	14.5
SEMI-DETACHED 30'x2	30x72 = 2160	20.2
SEMI-DETACHED 27'x2	27x110 = 2970	14.7
SEMI-DETACHED 24'x2	24x110 = 2640	16.5
SEMI-DETACHED 22.5'x2	22.5x110 = 2475	17.6
<b>ATTACHED</b>		
ON STREET TOWNHOUSE 27.5'	27.5x72 = 1980	22.0
ON STREET TOWNHOUSE 22.5'	22.5x100 = 2250	19.4
ON STREET TOWNHOUSE 20.0'	20x100 = 2000	21.8
ON STREET TOWNHOUSE 18'	18x100 = 1800	24.2
QUATTROPLEX LOT (each unit)	2133	20.0
QUATTROPLEX BLOCK CLUSTER	N.A.	20.0 +
BLOCK TOWNHOUSE	N.A.	14.0
BLOCK TOWNHOUSE Freehold on Cond. Road	N.A.	14.0
LOW APARTMENT 3-4 STOREY	N.A.	14.0 - 23.0
STACKED TOWNHOUSE 3-4 STOREY	N.A.	14.0 - 23.0
CASITAS	N.A.	27.0 - 30.0
MID-RISE APARTMENT Up to 8 Storey	N.A.	35.0 - 65.0
APARTMENT	N.A.	65.0 +

Figure 13: Single-Detached House With Accessory Apartment - "A Convertible House"

A "convertible house" incorporates a self-contained, separate unit (an accessory apartment) within a modified single-detached house. This enables a household to purchase the home and use the rental income from the apartment to supplement its mortgage payments while living in the main portion of the house. Ultimately, if the household grows, the apartment could be used for older children, nannies or other members of the extended family. Also, the potential opportunity for affordable rental accommodation is provided within the community. The unit could also be incorporated back into a single home to create a larger living area.

In terms of density, the "convertible house" can provide an increase in density on a lot without altering the appearance of the home on the street.

Currently, builders are offering convertible houses on lots with 40 and 46-foot frontages with net residential densities ranging from 17 to 20 units per acre. The example to the right incorporates the entry to the separate apartment on the side of the house. In order to facilitate production of this house form, most zoning by-laws typically would have to be amended to identify lots (or areas) where apartment units would be allowed.

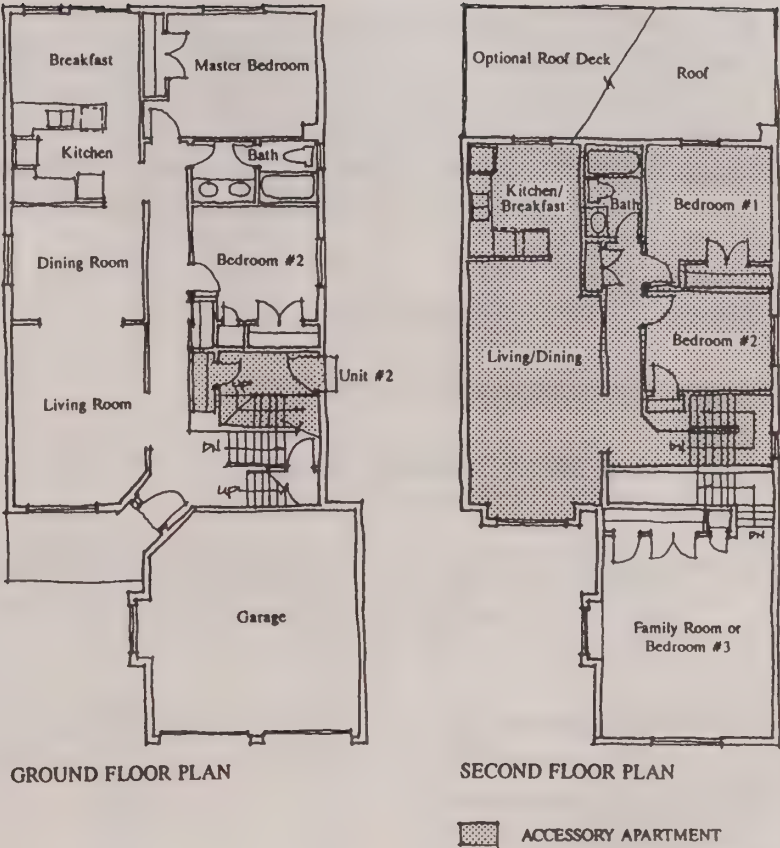


Figure 14: *Interlot - Single-Detached House With Zero-Lot Line/Zipper Lot*

The "interlot" is a single-detached house on a lot with a 33-foot frontage that is inter-connected with the neighbouring lot to the rear in a "zipper-like" fashion. This creates a combined block dimension of about 33 by 130 feet. In this configuration, the "interlot" house form attains a net density of about 20 units per acre, approximately the same as an on-street townhouse.

Key benefits of the "interlot" are as follows:

- Single-detached house form.
- Good street presence, insofar as front doors and primary living rooms face the street.
- Single car garage is recessed flush with the building face with parking for an additional car in the driveway.
- "Courtyard style" rear yards that are appealing to homeowners looking for some degree of privacy and lower maintenance.

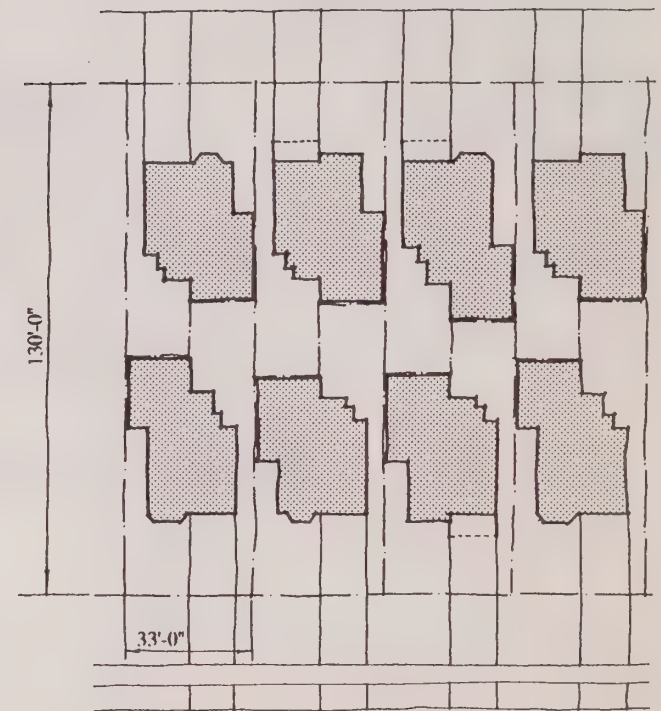


Figure 15: "Wide-Shallow" Semi-Detached House

"Wide-shallow" lots that can accommodate a range of single-detached, semi-detached or attached house forms present a longer building face to the street while reducing front and rear yard depths.

In the example illustrated here, the 30-foot wide by 75-foot deep lots provide a net residential density of about 20 units per acre. Again, this is comparable to the density of on-street townhouses. However, developers and builders have found marketability is enhanced as fewer and larger house forms are present in the street.

The example illustrated here includes a single car garage recessed from the front building face and incorporates efficient and functional square rooms within a two-storey unit.

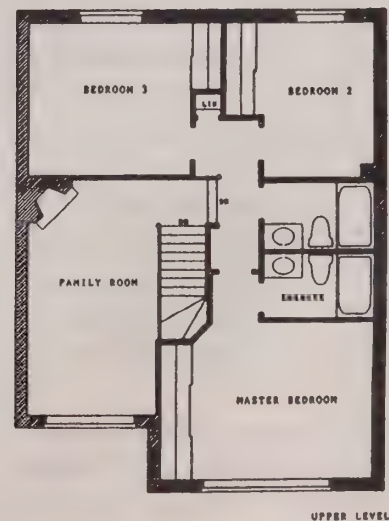
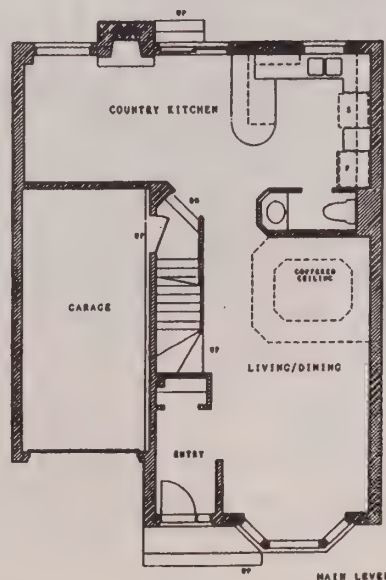
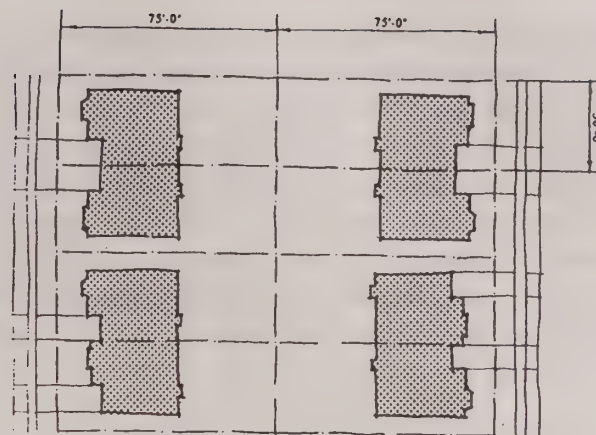


Figure 16: "The Quattroplex"

This relatively innovative built form contains four units within a relatively large attached house form with typically a 66-foot wide by 130-foot deep lot. It has been under development in the Greater Toronto Area since its inception in the City of Brampton in 1989. Typical net densities approximate 20 units per acre. At that time it had a condominium ownership and grouped parking (i.e. the parking space was clustered in a parking area away from the unit). Recent innovation with respect to the "quattroplex" house form has focused on two main aspects:

- Changing the ownership type from condominium to freehold. In a corner lot situation, this has been done by re-arranging the driveways, parking and frontyard amenity area for the four attached units; and
- Assessing the most appropriate location and planning configuration(s) for siting the four-unit quattroplex lot within the neighbourhood. This included re-thinking the standard street grid pattern for suburban development and mixing it with: the "interlot" (zero-lot line single-detached dwelling on a 130-foot deep block); the 240-foot deep block with quattroplexes backing onto single-detached forms; and the standard 216-foot block depth with back-to-back single-detached forms.

The reason for pursuing innovation in these two aspects of the "quattroplex" (ownership changes and adjusting the street grid/block depth) was to:

- Allow better exposure of all units to street frontage and provide a "visible" address;
- Disperse parking on a wider overall frontage and include single car garages within units wherever possible;
- Provide opportunities for better internal unit plans through varied relationships with the street and private amenity areas; and
- Enhance opportunities to appropriately integrate denser house forms throughout a neighbourhood while encouraging a more fine-grained mixture of compatible built forms.

The illustrations on the following two pages highlight some of the aspects just discussed:

- A corner block "quattroplex" relationship on a standard 216-foot suburban street grid (with an elevation of the interior quattroplex) (Figure 16(a));
- The mid-block "quattroplex" with frontage on two streets mixed with single-detached interlots on a 130-foot deep lot. In this instance, quattroplexes look like semi-detached house forms from the street. (Figure 16(b)).

Figure 16(a):

Corner Block "Quattroplexes" On A Standard Block (216 feet deep).

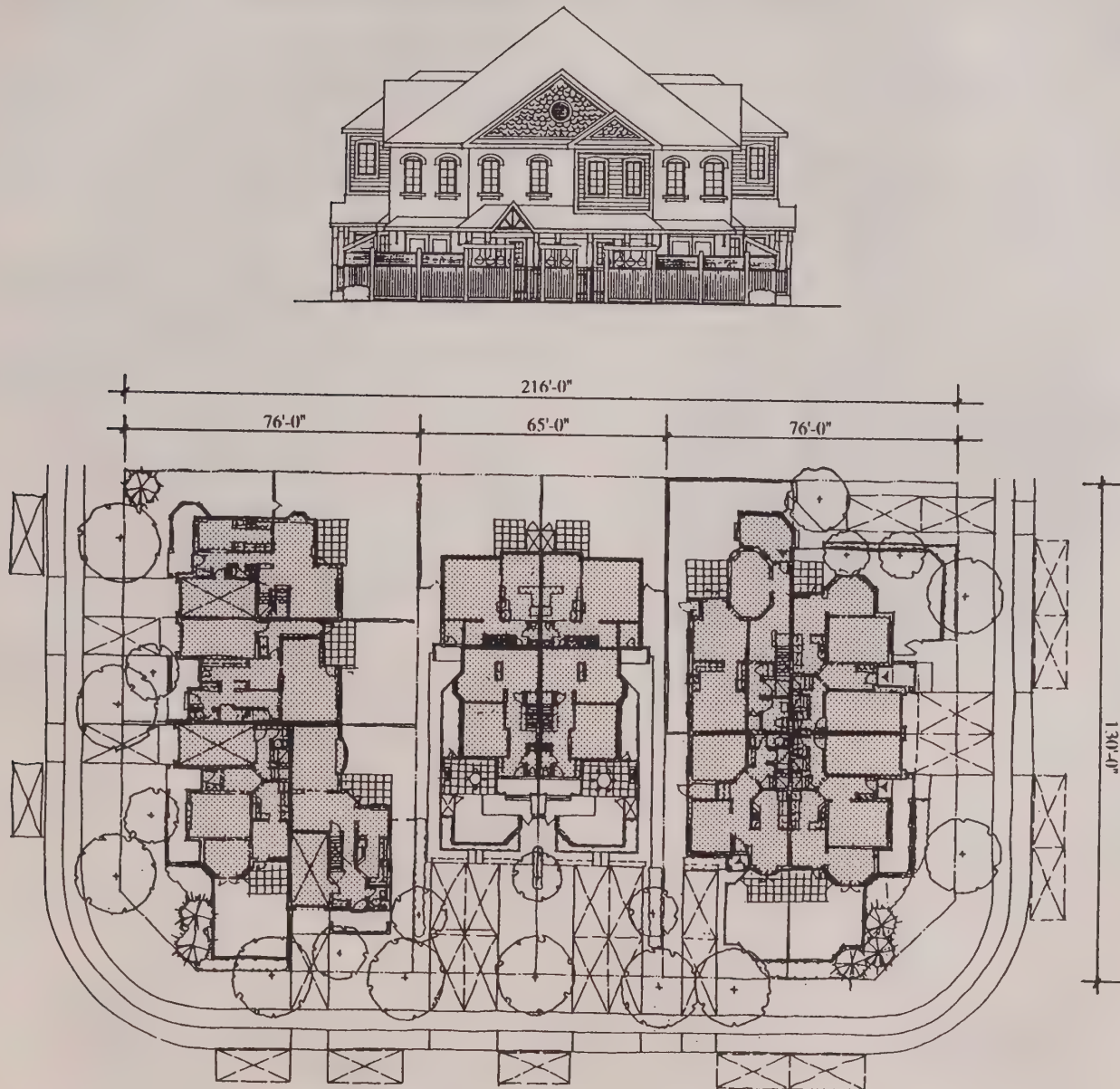


Figure 16(b): Mid And Corner Block "Quattroplexes" Mixed With "Interlot" Single Detached On A Shallow Street Block (130 feet deep)

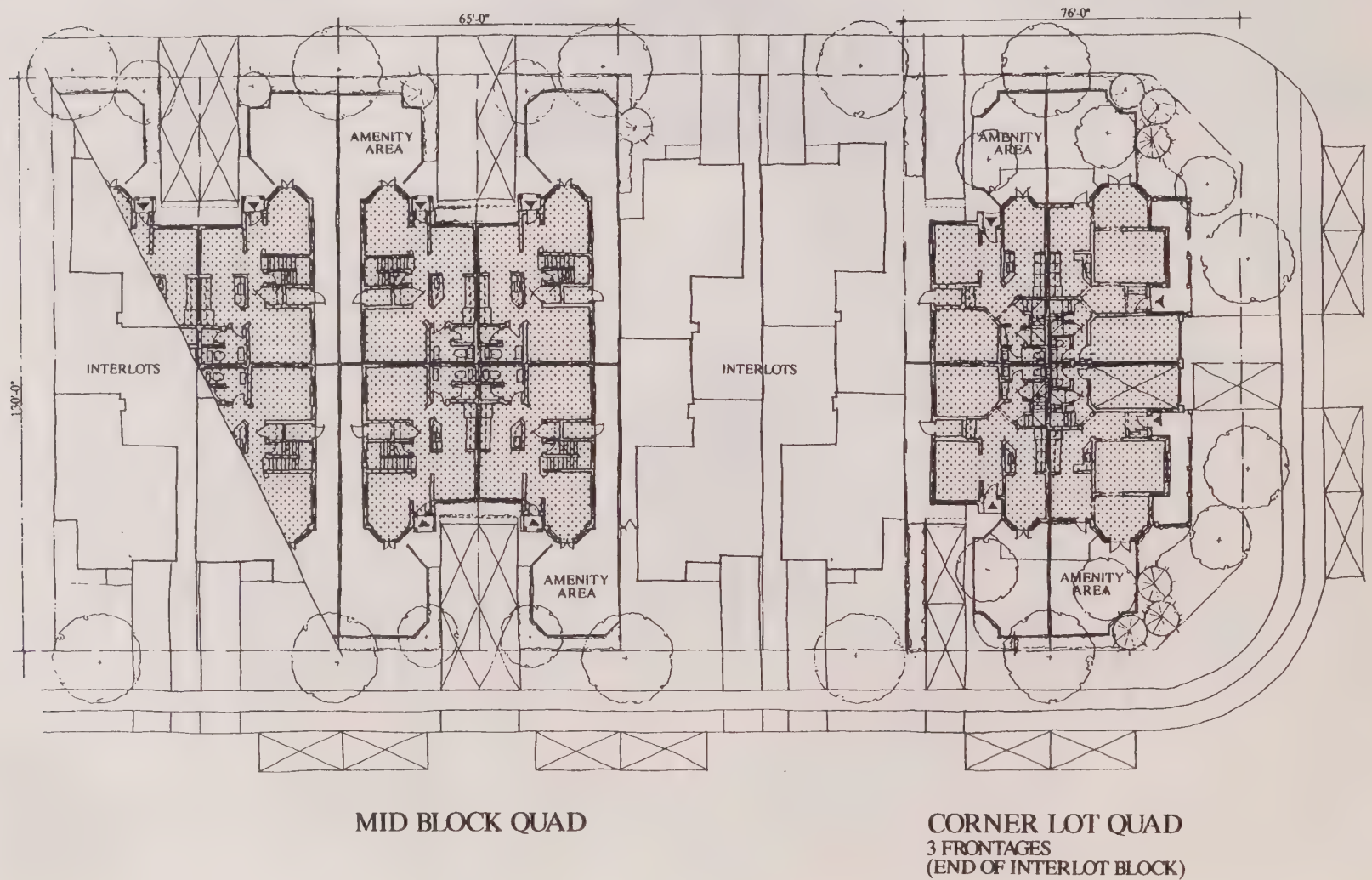


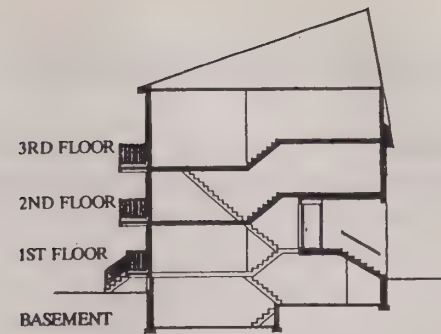
Figure 17: Stacked Townhouses

The stacked townhouse form allows for the vertical layering of living units over each other while maintaining a street-related entrance for each unit. The stacked townhouse form typically has three full storeys and a basement accommodating net residential densities ranging from 14 to 50 units per acre.

Key advantages of the stacked townhouses include:

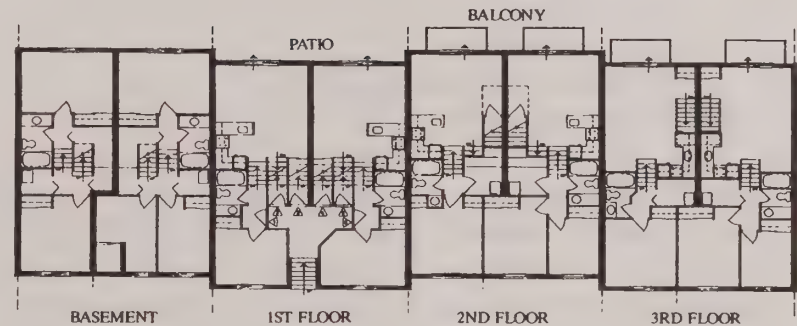
- Street-related one-storey and two-storey units with individual front doors;
- A wide range of unit sizes, from 500 sq.ft. bachelor units to 1,200 sq.ft. two-storey, three bedroom units; and,
- Underground or surface parking configuration.

The elevation, section and plan illustrated here is for a stacked townhouse form containing 24 units in total that, from the street, resembles four attached sixplexes (6 units together).



Section

Elevation



Plan



## B.2 HOUSING CHARACTERISTICS

Having identified a range of house forms, this section highlights a way of describing the characteristics of each. To establish a basis for useful comparison, the study team compiled seven characteristics which could be used to distinguish the attributes of each house form. These characteristics include, but are not limited to:

- Size of Living Space (# of bedrooms)
- Private Amenity Space
- Street Presence
- Car Parking
- Storage Capacity
- Maintenance Responsibility
- Ability to Expand

Each of these characteristics can be analyzed to determine how the attribute is most commonly provided in a particular housing form. Similar to a performance standard in nature, a coding system of A, B, C, D and E has been developed which allows the housing characteristics to be further categorized.

The suggested alphabetic code is not a ranking system, nor is this classification intended to encompass all characteristics which affect how a home functions. It is, however, a way to assign specific housing characteristics to house forms as objectively as possible.

An example of this housing characteristic coding system is presented in Figure 18. As an example, the characteristics specific to a *quattroplex block cluster* were identified by the

study team and are illustrated by a circle around the appropriate code. This code could then be subsequently transferred into the appropriate box within the "characteristics" column for each house form as illustrated in Figure 19. Once each house form has been examined according to each characteristic, the completed housing characteristic section could then be added to the house form matrix.

Figure 18: Housing Characteristics Specific To A Quattroplex Block Cluster

<b>1.0 Size Of Living Space</b> <ul style="list-style-type: none"> <li>• Bachelor Apartment</li> <li>• 1 Bedroom</li> <li>• 2 Bedroom</li> <li>• 3 Bedroom</li> <li>• 4+ Bedroom</li> </ul>	A B C D E	<b>4.0 Car Parking</b> <ul style="list-style-type: none"> <li>• One Car Space/Shared Area</li> <li>• Single Car Space on Lot</li> <li>• Double Car Space on Lot</li> <li>• Single Car Garage</li> <li>• Double Car Garage</li> </ul>	A B C D E
<b>2.0 Private Amenity Space</b> <ul style="list-style-type: none"> <li>• Balcony/Sun Room</li> <li>• Terrace</li> <li>• Front or Rear Yard - Unsecured</li> <li>• Front or Rear Yard - Secured</li> <li>• Front and Rear Yard</li> </ul>	A B C D E	<b>5.0 Storage Capacity</b> <ul style="list-style-type: none"> <li>• Apartment Style Locker</li> <li>• Basement/Utility Area</li> <li>• Outdoor Garden Shed</li> <li>• Single Car Garage</li> <li>• Double Car Garage</li> </ul>	A B C D E
<b>3.0 Street Presence</b> <ul style="list-style-type: none"> <li>• Door Not Visible From Street</li> <li>• Door Visible From Street</li> <li>• Door/Porch Visible From Street</li> <li>• Ground Level Windows &amp; Porch Visible From Street</li> <li>• Ground Level Windows, Porch &amp; Door Visible From Street</li> </ul>	A B C D E	<b>6.0 Maintenance Responsibility</b> <ul style="list-style-type: none"> <li>• 100% Maintenance By Others</li> <li>• 50% Maintenance By Others</li> <li>• Maintenance By Occupant Small Lot</li> <li>• Maintenance By Occupant Medium Lot</li> <li>• Maintenance By Occupant Large Lot</li> </ul>	A B C D E
		<b>7.0 Ability To Expand</b> <ul style="list-style-type: none"> <li>• Not Provided</li> <li>• Fold Out Couch</li> <li>• Dedicated Guest Room</li> <li>• Nanny/In-Law Suite (w/o Kitchen)</li> <li>• Separate Unit (with Kitchen)</li> </ul>	A B C D E

Figure 19: Housing Characteristics Most Commonly Provided By A Range Of House Forms

STREET RELATED ↑	HOUSE FORM			CHARACTERISTICS							
	Built Form	Lot Size Width Depth = Area (sq. ft.)	Net Density (ups)	Size of Living Space	Private Amenity Space	Street Presence	Car Parking	Storage Capacity	Maintenance Responsibility	Ability to Expand	
NON-STREET RELATED ↓	<b>DETACHED</b>										
	SINGLE DETACHED >50'	50x110 = >5500	<7.9	E	E	E	E	B-E	E	C	
	SINGLE DETACHED 50'	50x110 = 5500	8.0	E	E	E	E	B-E	E	C	
	SINGLE DETACHED 46'	46x110 = 5060	8.6	D-E	E	E	E	B-E	E	C	
	SINGLE DETACHED 46' c/w APT.	46x110 = 5060	17.2	D	E	E	E	B-E	E	D-E	
	SINGLE DETACHED 40'	40x110 = 4400	9.9	D	E	E	E	B-E	E	C	
	SINGLE DETACHED 40' c/w APT.	40x110 = 4400	19.8	C-D	E	E	E	B-E	E	D-E	
	INTERLOT 33'	33x55.75/75.50=2160	20.0	C-D	E	E	D	D	C	B	
	SINGLE DETACHED 32'	32x110 = 3520	12.4	C-D	E	C	D	D	D	B	
	SINGLE DETACHED 30'	30x100 = 3000	14.5	C	E	C	D	D	D	B	
	<b>SEMI-DETACHED</b>										
	SEMI-DETACHED 30'x2	30x110 = 3300	13.2	C-D	E	D	D	B-D	D	B-C	
	SEMI-DETACHED 30'x2	30x100 = 3000	14.5	C-D	E	D	D	B-D	D	B-C	
	SEMI-DETACHED 30'x2	30x72 = 2160	20.2	C-D	E	C	D	B-D	C	B-C	
	SEMI-DETACHED 27'x2	27x110 = 2970	14.7	C-D	E	C	D	B-D	C	B-C	
	SEMI-DETACHED 24'x2	24x110 = 2640	16.5	C-D	E	C	D	B-D	C	B-C	
	SEMI-DETACHED 22.5'x2	22.5x110 = 2475	17.6	C-D	E	C	D	B-D	C	B	
	<b>ATTACHED</b>										
	ON STREET TOWNHOUSE 27.5'	27.5x72 = 1980	22.0	D	E	C-D	E	B-E	D	C	
	ON STREET TOWNHOUSE 22.5'	22.5x100 = 2250	19.4	D	E	B-C	D	B-D	C	C	
	ON STREET TOWNHOUSE 20.0'	20x100 = 2000	21.8	D	E	B-C	D	B-D	C	B-C	
	ON STREET TOWNHOUSE 18'	18x100 = 1800	24.2	D	E	B-C	D	B-D	C	B-C	
	QUATTROPLEX LOT (each unit)	2153	20.0	C-D	D	A-B-C	B-C	B-C	C	B	
	<b>QUATTROPLEX BLOCK CLUSTER</b>	N.A.	20.0 +	C-D	D	A-B-C	B-C	B-C	A-B	B	
	BLOCK TOWNHOUSE	N.A.	14.0	D	C	B-C	D	B-D	A-B	B-C	
	BLOCK TOWNHOUSE Prebld on Coord. Road	N.A.	14.0	D	C	B-C	D	B-D	A-B-C	B-C	
	LOW APARTMENT 3-4 STOREY	N.A.	14.0 - 23.0	A-D	B	A-B	A	A	A	A-B	
	STACKED TOWNHOUSE 3-4 STOREY	N.A.	14.0 - 23.0	A-D	A-B	A	A	A	A	A-B	
	CASITAS	N.A.	27.0 - 30.0	A-D	A-B	A	A	A	A	A-B	
	MID-RISE APARTMENT Up to 8 Storey	N.A.	35.0 - 65.0	A-D	A	A	A	A	A	A	
	APARTMENT	N.A.	65.0 +	A-D	A	A	A	A	A	A	

### B.3 OWNERSHIP OPTIONS

This section highlights the two primary types of ownership options which currently exist in the GTA: *freehold* and *condominium*. "Equity cooperatives" represent another ownership option whereby purchasers buy a share (unit) within a development. The share is bought at a particular price and allows for an equity appreciation up to a maximum amount. It is an unproven approach to home ownership in the GTA, although there are a variety of initiatives underway both in the private and public sectors. Rental tenure has not been incorporated into this study as it focuses on ownership housing. Clearly, the full range of house forms could also potentially provide households with rental accommodation. This should be considered if the municipality wants to examine the full range of tenure opportunities.

As in Section B.2, ("Housing Characteristics"), ownership options could be cross-referenced to each house form and added to the matrix. In this manner, each house form could be considered according to its ability to be provided in various types of ownership. Figure 20 illustrates ownership options in terms of what is currently "typical", "possible" and "not possible". A blank box without a hollow or solid circle indicates that the particular ownership option is "not possible" for the house form.

A review of Figure 20 indicates that while some house forms are typically offered in one type of ownership, other house forms, such as the quattroplex, are offered in freehold and condominium options. This is significant as it may be advantageous for communities to include house forms which

have the flexibility to be provided in several types of ownership to respond to a range of affordable ownership housing needs.

Figure 20: Potential Ownership Options Associated With A Range Of House Forms

HOUSE FORM	Lot Size Width Depth = Area (sq. ft.)	Net Density (u/sq)	OWNERSHIP OPTIONS		TYPICAL ● POSSIBLE ○
			Freehold	Condominium	
<b>DETACHED</b>					
SINGLE DETACHED >50'	50x110 = >5500	<7.9	●	○	
SINGLE DETACHED 50'	50x110 = 5500	8.0	●	○	
SINGLE DETACHED 40'	46x110 = 5060	8.6	●	○	
SINGLE DETACHED 40' c/w APT.	46x110 = 5060	17.2	●	○	
SINGLE DETACHED 40'	40x110 = 4400	9.9	●	○	
SINGLE DETACHED 40' c/w APT.	40x110 = 4400	19.8	●	○	
INTERLOT 33'	33x55.75/75.50=2160	20.0	●	○	
SINGLE DETACHED 32'	32x110 = 3520	12.4	●	○	
SINGLE DETACHED 30'	30x100 = 3000	14.3	●	○	
<b>SEMI-DETACHED</b>					
SEMI-DETACHED 30'x2	30x110 = 3300	13.2	●	○	
SEMI-DETACHED 30'x2	30x100 = 3000	14.3	●	○	
SEMI-DETACHED 30'x2	30x72 = 2160	20.3	●	○	
SEMI-DETACHED 27'x2	27x110 = 2970	14.7	●	○	
SEMI-DETACHED 24'x2	24x110 = 2640	16.3	●	○	
SEMI-DETACHED 22.5'x2	22.5x110 = 2475	17.6	●	○	
<b>ATTACHED</b>					
ON STREET TOWNHOUSE 27.5'	27.5x72 = 1980	22.0	●	○	
ON STREET TOWNHOUSE 22.5'	22.5x100 = 2250	19.4	●	○	
ON STREET TOWNHOUSE 20.0'	20x100 = 2000	21.8	●	○	
ON STREET TOWNHOUSE 18'	18x100 = 1800	24.2	●	○	
QUATTROPLEX LOT (each unit)	2153	20.0	●	●	
QUATTROPLEX BLOCK CLUSTER	N.A.	20.0+		●	
BLOCK TOWNHOUSE	N.A.	14.0		●	
BLOCK TOWNHOUSE Freehold on Const. Road	N.A.	14.0	○	●	
LOW APARTMENT 3-4 STOREY	N.A.	14.0 - 23.0		●	
STACKED TOWNHOUSE 3-4 STOREY	N.A.	14.0 - 23.0		●	
CASITAS	N.A.	27.0 - 30.0		●	
MID-RISE APARTMENT Up to 8 Storey	N.A.	35.0 - 45.0		●	
APARTMENT	N.A.	65.0+		●	

B.4 HOUSE PRICE

This section examines how to consider and integrate house price into the house form profile. This is necessary as house price is directly related to a household's purchasing power; that is, its ability to pay for a house, assuming the household spends a maximum of 30 per cent of its gross annual income on housing costs. Price is typically the most important factor in housing decisions.

The *house price* is the sum of two major cost components: "*land cost*" and "*house cost*".

Generally, "*land cost*" accounts for the initial purchase price of the land and all the other costs associated with developing land for sale to a builder, including planning approvals, development charges and potential dedications (e.g. parks). The "*house cost*" includes all the costs associated with the construction of the house prior to its sale to the prospective purchaser. The profit for the developer and builder is also incorporated into each component, respectively.

It is suggested that price data be gathered to complete this component of the house form profile (matrix). For the purpose of illustration, house price data was collected on a GTA-wide basis by the study team through various sources such as the development/real estate industry representatives on the Steering Committee, as well as several other developers and builders. The study team found that house prices were not readily available across the GTA. This could pose challenges for individual municipalities trying to collect price information and suggests there may be an opportunity

to co-ordinate a broader level "public-private sector" data collection effort.

Average house prices across the GTA could be expressed as a range with low and high price on either side of the ownership symbol. For example:

(\$160,000 Low ● \$170,000 High)

When applied to the house form matrix, this would be illustrated in the price column as follows:

160 ● 170

Figure 21 provides an example of the completed house form matrix with the range of house prices transferred to all house forms investigated at the GTA level. "Blank" prices indicate that the specific house form price was not currently available.

Figure 21: Example Of The Characteristics, Ownership Options And Price Associated With A Range Of House Forms

STREET RELATED

NON-STREET RELATED

HOUSE FORM

CHARACTERISTICS

OWNERSHIP OPTIONS / PRICE

TYPICAL

POSSIBLE

PRICE RANGE

NOT POSSIBLE

●

○

●

●

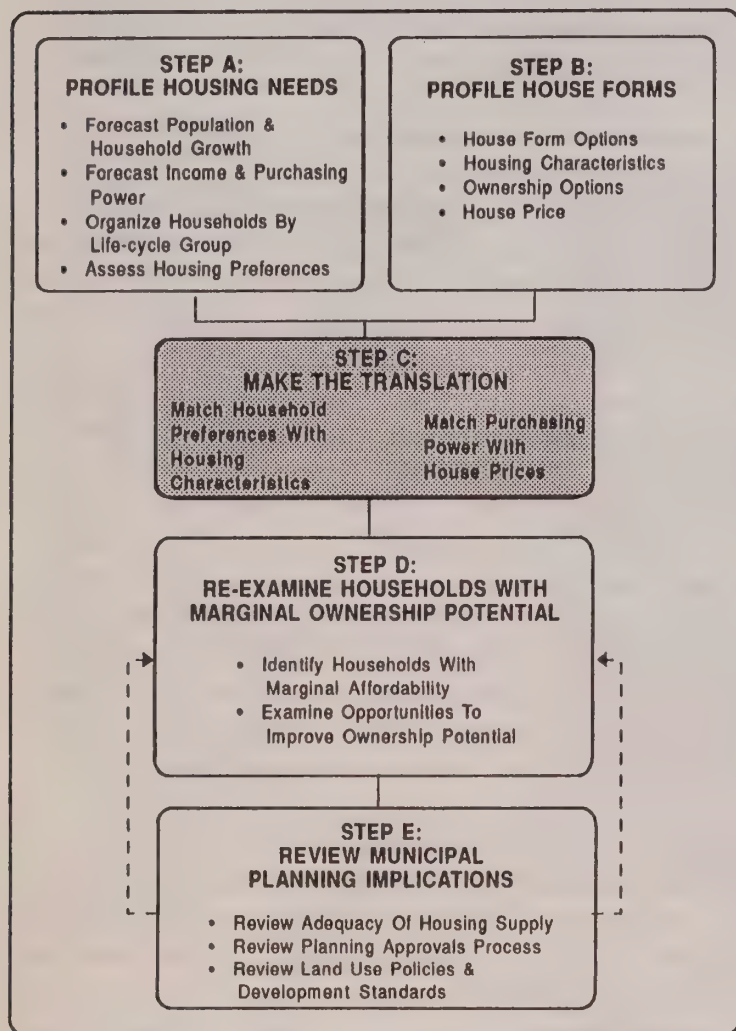
LOW

HIGH

Built Form	Lot Size Width Depth = Area (sq. ft.)	Net Density (ups)	Size of Living Space	Private Amenity Space	Street Presence	Car Parking	Storage Capacity	Maintenance Responsibility	Ability to Expand		FreeHold	Condominium
DETACHED												
SINGLE DETACHED >50'	50x110 = >5500	<7.9	E	E	E	E	B-E	E	C		260 ● +	○
SINGLE DETACHED 50'	50x110 = 5500	8.0	E	E	E	E	B-E	E	C		245 ● 340	○
SINGLE DETACHED 46'	46x110 = 5060	8.6	D-E	E	E	E	B-E	E	C		240 ● 275	○
SINGLE DETACHED 46' c/w APT.	46x110 = 5060	17.2	D	E	E	E	B-E	E	D-E		270 ● 285	○
SINGLE DETACHED 40'	40x110 = 4400	9.9	D	E	E	E	B-E	E	C		235 ● 265	○
SINGLE DETACHED 40' c/w APT.	40x110 = 4400	19.8	C-D	E	E	E	B-E	E	D-E		250 ● 270	○
INTERLOT 33'	33x55.75/75.30=2160	20.0	C-D	E	E	D	D	C	B		175 ● 225	○
SINGLE DETACHED 32'	32x110 = 3520	12.4	C-D	E	C	D	D	D	B		185 ● 215	○
SINGLE DETACHED 30'	30x100 = 3000	14.5	C	E	C	D	D	D	B		180 ● 210	○
SEMI-DETACHED												
SEMI-DETACHED 30'x2	30x110 = 3300	13.2	C-D	E	D	D	B-D	D	B-C		175 ● 195	○
SEMI-DETACHED 30'x2	30x100 = 3000	14.5	C-D	E	D	D	B-D	D	B-C		170 ● 190	○
SEMI-DETACHED 30'x2	30x72 = 2160	20.2	C-D	E	C	D	B-D	C	B-C		145 ● 160	○
SEMI-DETACHED 27'x2	27x110 = 2970	14.7	C-D	E	C	D	B-D	C	B-C		160 ● 185	○
SEMI-DETACHED 24'x2	24x110 = 2640	16.5	C-D	E	C	D	B-D	C	B-C		160 ● 175	○
SEMI-DETACHED 22.5'x2	22.5x110 = 2475	17.6	C-D	E	C	D	B-D	C	B		160 ● 170	○
ATTACHED												
ON STREET TOWNHOUSE 27.5'	27.5x72 = 1980	22.0	D	E	C-D	E	B-E	D	C		185 ● 200	○
ON STREET TOWNHOUSE 22.5'	22.5x100 = 2250	19.4	D	E	B-C	D	B-D	C	C		160 ● 180	○
ON STREET TOWNHOUSE 30.0'	20x100 = 2000	21.8	D	E	B-C	D	B-D	C	B-C		155 ● 175	○
ON STREET TOWNHOUSE 18'	18x100 = 1800	24.2	D	E	B-C	D	B-D	C	B-C		155 ● 170	○
QUATTROPLEX LOT (each unit)	2153	30.0	C-D	D	A-B-C	B-C	B-C	C	B		155 ● 170	150 ● 165
QUATTROPLEX BLOCK CLUSTER	N.A.	20.0 +	C-D	D	A-B-C	B-C	B-C	A-B	B			●
BLOCK TOWNHOUSE	N.A.	14.0	D	C	B-C	D	B-D	A-B	B-C			125 ● 140
BLOCK TOWNHOUSE Freehold on Const. Road	N.A.	14.0	D	C	B-C	D	B-D	A-B-C	B-C		145 ○ 160	125 ● 140
LOW APARTMENT 3-4 STOREY	N.A.	14.0 - 23.0	A-D	B	A-B	A	A	A	A-B			100 ● 160
STACKED TOWNHOUSE 3-4 STOREY	N.A.	14.0 - 23.0	A-D	A-B	A	A	A	A	A-B			110 ● 165
CASITAS	N.A.	27.0 - 30.0	A-D	A-B	A	A	A	A	A-B			135 ● 165
MID-RISE APARTMENT Up to 8 Storey	N.A.	35.0 - 65.0	A-D	A	A	A	A	A	A			85 ● 180
APARTMENT	N.A.	65.0 +	A-D	A	A	A	A	A	A			85 ● 220

## STEP C: MAKE THE TRANSLATION

Figure 22: Step C - Make The Translation



This step suggests how to translate housing needs into house forms by bringing together the results of the previous two steps: the housing needs profile (Step A) and the house forms profile (Step B). After explaining the basic approach, one Richmond Hill household life-cycle group ("Younger Household", 25 - 34 years old) is used to illustrate how the translation could work.

This approach is described in the following two sub-sections:

- C.1: The General Approach
- C.2: Applying The Approach

## C.1 THE GENERAL APPROACH

This sub-section describes the general process suggested to make the linkage between housing needs and house forms.

### **Step 1: Match Household Preferences With Housing Characteristics**

The characteristics of the house forms outlined in Step B.2 need to be evaluated against the household preferences that would be identified through the housing needs profile in Step A.3. The house forms could be categorized according to how well their characteristics match or satisfy household preferences. Three categories could be used to assist in the comparison: house form characteristic "exceeds household preference"; "meets household preference"; and "does not meet household preference".

### **Step 2: Match Household Purchasing Power With House Price**

The housing prices identified in Step B.4 need to be assessed against the household purchasing power identified in the housing needs profile from Step A.3. For the purpose of general illustration, the study team chose a household purchasing power of \$150,000 to conceptually show how the price-purchasing power linkage could occur. Once again, the house forms could be categorized but, in this case, by how well their prices match the purchasing power of the household. Two categories could be used to assist in the comparison: "housing price would likely exceed household purchasing power" and "housing price would likely be within household purchasing power".

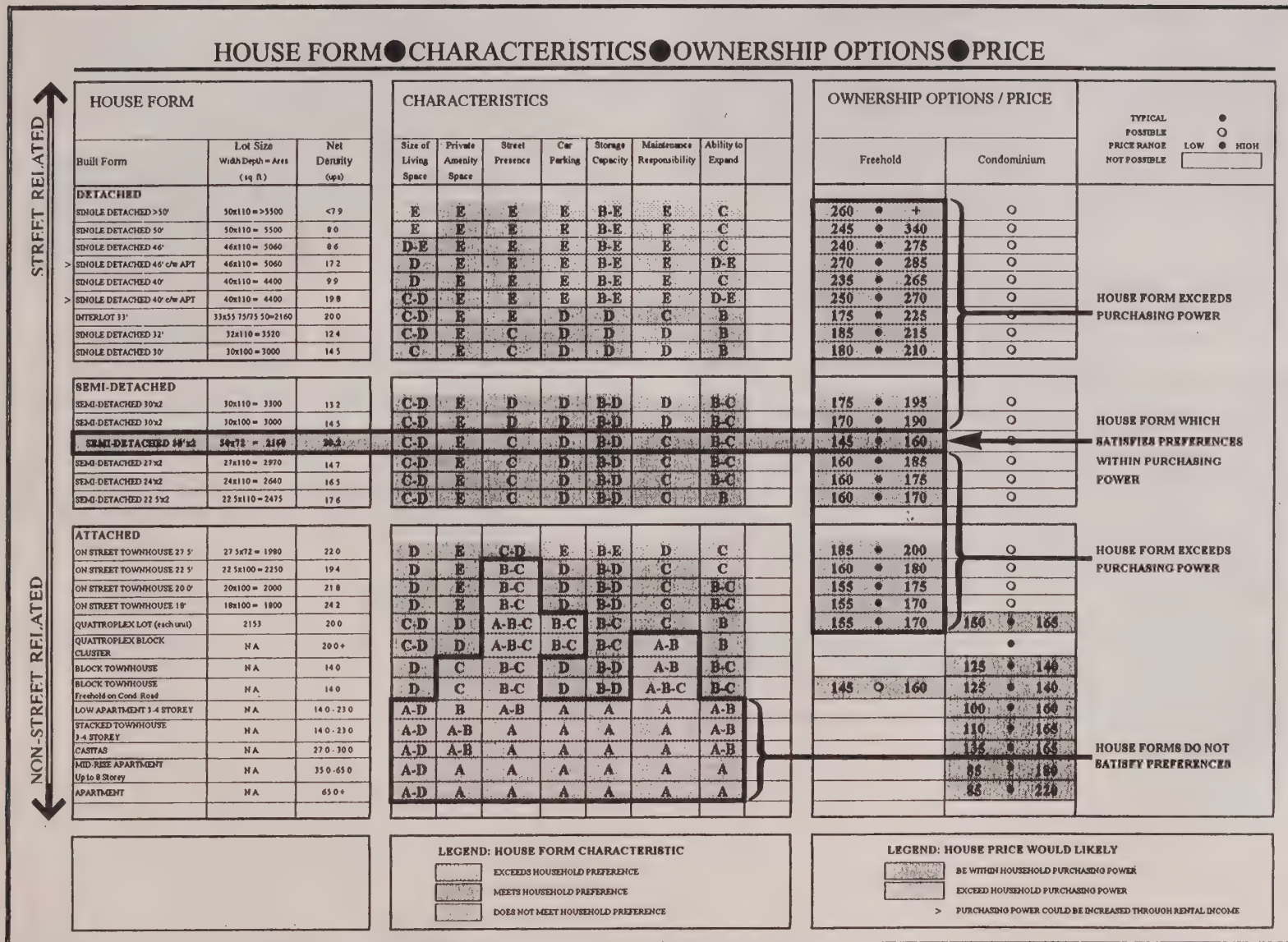
### **Step 3: Identify House Forms That Meet Both Household Preferences & Purchasing Power**

Having completed the previous two "matching" exercises, house forms could then be identified that meet both household preferences and purchasing power. An example of this generic "matching" exercise is provided in Figure 23.

Using this conceptual example, only one house form (the "wide-shallow" semi-detached, 30 by 72-foot lot) meets household preferences while also being within the household purchasing power of about \$150,000. An example of this house form was previously described in Step B.1, Figure 15. Figure 23 illustrates that although a range of attached house forms (e.g. quattroplex to apartments) are generally within a household's purchasing power, their characteristics, related to amenity space, street presence, parking and maintenance, may not meet a household's preferences. If the household was willing to "trade-off" a preferred characteristic, it is possible that the affordable house forms could be acceptable. As discussed further in Step D.2 (Issue 2), the need to make "trade-offs" is common practice for households making a housing decision, particularly those with marginal affordability. Alternatively, while all of the detached house forms would meet or exceed the household's preferences, their price is more than the household could afford.

By following this three-step process, the translation of identified housing needs into appropriate house forms could be fully completed. The next sub-section illustrates the application of this three-step process for one example household life-cycle group.

Figure 23: Conceptual Example Of How To Generally Translate Housing Needs Into House Forms  
(Household Purchasing Power assumed to be \$150,000 for the purpose of illustration)



## C.2 APPLYING THE APPROACH

Having conceptually described the general way to make the translation, this sub-section applies the methodology using one household life-cycle group. The study team chose the "Younger Household" (25-34 years old) life-cycle group profiled in Section A.3. The household was assumed to be a family with children at the 30th income percentile. The translation is illustrated through the following three steps.

### Step 1: Match Household Preferences With Housing Characteristics

As previously described in C.1, the first "matching" exercise evaluates household preferences with housing characteristics. For the purpose of illustration, the study team set up a "role playing" scenario to determine how well the household's preferences might fit the housing characteristics. That is, the study team assessed the housing characteristics based on their opinion and experience as to what preferences this "Younger Household" (family with children) would likely have. The results of the study team's preference assessment is coded with circles in Figure 24. In practice, findings from a more detailed housing preference analysis used to profile housing needs (see Step A.2) would be used to assess the housing characteristics.

Figure 24: Likely Housing Characteristics Preferred By A Younger Household (25 - 34 Years Old, Family With Children)

<b>1.0 Size Of Living Space</b> <ul style="list-style-type: none"> <li>Bachelor Apartment</li> <li>1 Bedroom</li> <li>2 Bedroom</li> <li>3 Bedroom</li> <li>4+ Bedroom</li> </ul>	A B <b>C</b> D E
<b>2.0 Private Amenity Space</b> <ul style="list-style-type: none"> <li>Balcony/Sun Room</li> <li>Terrace</li> <li>Front or Rear Yard - Unsecured</li> <li>Front or Rear Yard - Secured</li> <li>Front and Rear Yard</li> </ul>	A B <b>C</b> D E
<b>3.0 Street Presence</b> <ul style="list-style-type: none"> <li>Door Not Visible From Street</li> <li>Door Visible From Street</li> <li>Door/Porch Visible From Street</li> <li>Ground Level Windows &amp; Porch Visible From Street</li> <li>Ground Level Windows, Porch &amp; Door Visible From Street</li> </ul>	A <b>B</b> C D E
<b>4.0 Car Parking</b> <ul style="list-style-type: none"> <li>One Car Space/Shared Area</li> <li>Single Car Space on Lot</li> <li>Double Car Space on Lot</li> <li>Single Car Garage</li> <li>Double Car Garage</li> </ul>	A B <b>C</b> D E
<b>5.0 Storage Capacity</b> <ul style="list-style-type: none"> <li>Apartment Style Locker</li> <li>Basement/Utility Area</li> <li>Outdoor Garden Shed</li> <li>Single Car Garage</li> <li>Double Car Garage</li> </ul>	A B <b>C</b> D E
<b>6.0 Maintenance Responsibility</b> <ul style="list-style-type: none"> <li>100% Maintenance By Others</li> <li>50% Maintenance By Others</li> <li>Maintenance By Occupant Small Lot</li> <li>Maintenance By Occupant Medium Lot</li> <li>Maintenance By Occupant Large Lot</li> </ul>	A B <b>C</b> D E
<b>7.0 Ability To Expand</b> <ul style="list-style-type: none"> <li>Not Provided</li> <li>Fold Out Couch</li> <li>Dedicated Guest Room</li> <li>Nanny/In-Law Suite (w/o Kitchen)</li> <li>Separate Unit (with Kitchen)</li> </ul>	A <b>B</b> C D E

### **Step 2: Match Household Purchasing Power With Housing Price**

Recall that the next step in the translation involves a comparison between household purchasing power with house price. The study team assumed, for the purpose of illustration, that the "Younger Household" (25-34 years old) would have an income at the 30th percentile. Again, as previously discussed in Step A.3, this household would have a purchasing power of about \$180,000. Thus, house prices up to about \$180,000 would be considered affordable to this particular life-cycle group.

House price data for Richmond Hill was estimated by the study team through information from the development industry on the Steering Committee and from discussions with other builders and developers. For house forms not currently available in Richmond Hill, or for house forms where price information was not available, the study team adjusted the GTA-wide house prices upward by a factor of 10 per cent to complete Figure 25.

### **Step 3: Identify House Forms That Meet Both Household Preferences And Purchasing Power**

Finally, by bringing the previous two matching exercises (Steps 1 and 2) together, the methodology establishes a way to identify house forms which could meet both the preferences and purchasing power of this particular household group. The resulting linkage between household preferences and purchasing power is illustrated in Figure 25.

As Figure 25 illustrates, the price of detached and larger semi-detached house forms exceeds the purchasing power of this particular life-cycle group at the 30th income percentile. The housing characteristics of the more non street-related attached house forms (e.g. condominium apartments) would not likely satisfy the preferences of this life-cycle group. However, the figure clearly illustrates that a range of house forms, including quattroplexes, townhouses and semi-detached on lots up to 30 feet in width, would likely satisfy both the preferences and purchasing power of this particular life-cycle group. It is conceivable that these "Younger Households" may "trade-off" certain preferred characteristics (e.g. parking, maintenance and storage) associated with other attached house forms (townhouses and apartments) if their price met the household's purchasing power.

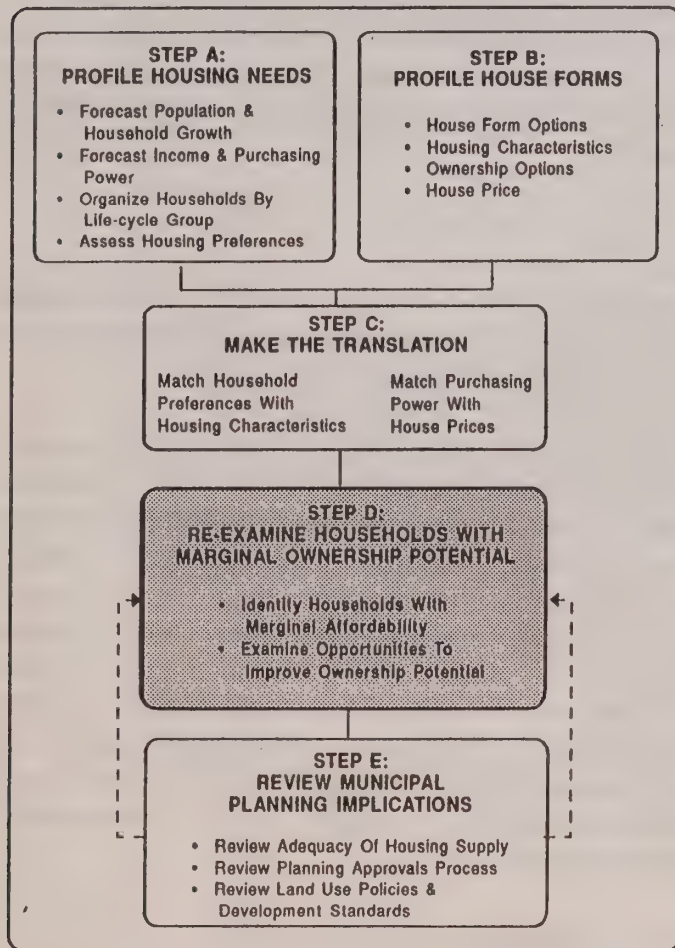
In general, the range of ownership house forms that could be appropriate to this life-cycle group (i.e. the house form meets both preference and purchasing power) expands as income increases through the 40th, 50th and 60th percentile. For example, at the 60th income percentile for this life-cycle group, purchasing power is about \$289,000 (see Step A.3). With this amount of purchasing power, many of the detached house forms which have preferred characteristics would also be affordable.

Figure 25: Applied Example Of How To Translate Housing Needs Into House Forms (Younger Households, 25 - 34 Years Old, Family With Children)

HOUSE FORM ● CHARACTERISTICS ● OWNERSHIP OPTIONS ● PRICE														
HOUSE FORM			CHARACTERISTICS								OWNERSHIP OPTIONS / PRICE		TYPICAL POSSIBLE PRICE RANGE	
Build Form	Lot Size Width Depth = Area (sq. ft.)	Net Density (u/s)	Size of Living Space	Private Amenity Space	Street Presence	Car Parking	Storage Capacity	Maintenance Responsibility	Ability to Expand		Freehold	Condominium	LOW	HIGH
<b>DETACHED</b>														
SINGLE DETACHED >10'	50x110 = 5500	<7.9	E	E	E	E	B-E	E	C		345 ● +	○		
SINGLE DETACHED 50'	50x110 = 5500	8.0	E	E	E	E	B-E	E	C		275 ● 416	○		
SINGLE DETACHED 46'	46x110 = 5060	8.6	D-E	E	E	E	B-E	E	C		260 ● 385	○		
> SINGLE DETACHED 46' w/ APT.	46x110 = 5060	17.2	D	E	E	E	B-E	E	D-E		*295 ● 315	○		
SINGLE DETACHED 40'	40x110 = 4400	9.9	D	E	E	E	B-E	E	C		240 ● 305	○		
> SINGLE DETACHED 40' w/ APT.	40x110 = 4400	19.8	C-D	E	E	E	B-E	E	D-E		*275 ● 295*	○		
INTERLOT 33'	33x55.75/75.50=1160	30.0	C-D	E	E	D	D	C	B		*195 ● 245*	○		
SINGLE DETACHED 33'	33x110 = 3320	12.4	C-D	E	C	D	D	D	B		210 ● 270	○		
SINGLE DETACHED 30'	30x100 = 3000	14.5	C	E	C	D	D	D	B		*200 ● 230*	○		
<b>SEMI-DETACHED</b>														
SEMI-DETACHED 30'x2	30x110 = 3300	17.2	C-D	E	D	D	B-D	D	B-C		*195 ● 215*	○		
SEMI-DETACHED 30'x2	30x100 = 3000	14.5	C-D	E	D	D	B-D	D	B-C		*185 ● 200*	○		
SEMI-DETACHED 30'x2	30x73 = 2160	30.2	C-D	E	C	D	B-D	C	B-C		*160 ● 175*	○		
SEMI-DETACHED 27'x2	27x110 = 2970	14.7	C-D	E	C	D	B-D	G	B-C		*175 ● 205*	○		
SEMI-DETACHED 24'x2	24x110 = 2640	16.5	C-D	E	C	D	B-D	G	B-C		*175 ● 195*	○		
SEMI-DETACHED 22.5'x2	22.5x110 = 2475	17.6	C-D	E	C	D	B-D	G	B		*175 ● 185*	○		
<b>ATTACHED</b>														
ON STREET TOWNHOUSE 27.5'	27.5x72 = 1980	22.0	D	E	C-D	E	B-E	D	C		*205 ● 220*	○		
ON STREET TOWNHOUSE 22.5'	22.5x100 = 2250	19.4	D	E	B-C	D	B-D	O	C		*175 ● 200*	○		
ON STREET TOWNHOUSE 20.0'	20x100 = 2000	21.8	D	E	B-C	D	B-D	O	B-C		*170 ● 195*	○		
ON STREET TOWNHOUSE 18'	18x100 = 1800	24.2	D	E	B-C	D	B-D	O	B-C		*170 ● 185*	○		
QUATTROPLEX LOT (each unit)	2153	20.0	C-D	D	A-B-C	B-C	B-C	C	B		*170 ● 185*	*165 ● 180*		
QUATTROPLEX BLOCK CLUSTER	N.A.	30.0+	C-D	D	A-B-C	B-C	B-C	A-B	B					
BLOCK TOWNHOUSE	N.A.	14.0	D	C	B-C	D	B-D	A-B	B-C			*140 ● 155*		
BLOCK TOWNHOUSE Freehold on Cond. Road	N.A.	14.0	D	C	B-C	D	B-D	A-B-C	B-C		*160 ○ 175*	*140 ● 155*		
LOW APARTMENT 3-4 STOREY	N.A.	14.0 - 22.0	A-D	B	A-B	A	A	A	A-B			*110 ● 175*		
STACKED TOWNHOUSE 1-4 STOREY	N.A.	14.0 - 22.0	A-D	A-B	A	A	A	A	A-B			*120 ● 180*		
CASITAS	N.A.	27.0 - 30.0	A-D	A-B	A	A	A	A	A-B			*150 ● 180*		
MID-RISE APARTMENT Up to 8 Storey	N.A.	35.0 - 65.0	A-D	A	A	A	A	A	A					
APARTMENT	N.A.	65.0+	A-D	A	A	A	A	A	A			170 ● 191		
			LEGEND: HOUSE FORM CHARACTERISTIC								LEGEND: HOUSE PRICE WOULD LIKELY			
			<div>Exceeds Household Preference</div> <div>Meets Household Preference</div> <div>Does Not Meet Household Preference</div>								<div>Be Within Household Purchasing Power</div> <div>Exceed Household Purchasing Power</div> <div>&gt; Purchasing Power Could Be Increased Through Rental Income</div> <div>* Indicates House Prices Based on 'OTA' Values Increased +10% For Richmond Hill Application</div>			

## STEP D: RE-EXAMINE HOUSEHOLDS WITH MARGINAL OWNERSHIP POTENTIAL

Figure 26: *Step D - Re-Examine Households With Marginal Ownership Potential*



Having translated housing needs into house forms for all moderate income household life-cycle groups, there will likely be some households whose ability to own a home is constrained due to a lack of purchasing power. In this step, it is important to identify those households so that further analysis could be undertaken focusing on potential opportunities to improve home ownership affordability.

The following sub-sections outline these tasks:

- D.1: Identify Households With Marginal Ownership Potential; and
- D.2: Examine Opportunities To Improve Ownership Potential.

## D.1 IDENTIFY HOUSEHOLDS WITH MARGINAL OWNERSHIP POTENTIAL

Figures 27 and 28 provide an example of a way to highlight which household life-cycle groups may have affordable ownership constraints at the 30th and 60th income percentiles. These figures compare estimated household purchasing power at the respective income percentiles (see Appendix B, pg. B-11) with the lowest estimated price for each general house form type in Richmond Hill (see Figure 25). These figures highlight the low (30th income percentile) and high (60th income percentile) range of moderate income household affordability. The analysis could be repeated for households at the 40th and 50th income percentiles.

As Figure 27 indicates, at the 30th income percentile, virtually all house forms in Richmond Hill would be "unaffordable" for non-family households. On the other hand, the minimum price for most house forms are "affordable" to most family households at the 30th income percentile. The exception to this would likely be single-parent families who typically comprise a small, but recently increasing proportion, of family households. The income of a single parent is likely to be similar to non-family households (i.e. single income), although statistics were not readily available for this study.

As indicated in Figure 28, the range of affordable home ownership opportunities expands for non-family households at the 60th income percentile. This is particularly true for "middle-aged households", whose increased purchasing power makes the semi-detached and attached house forms

affordable. For family households at the 60th income percentile, virtually all general house forms are "affordable".

## D.2 EXAMINE OPPORTUNITIES TO IMPROVE OWNERSHIP POTENTIAL

The overall methodology needs to be flexible enough to allow some level of further analysis with respect to expanding affordable home ownership opportunities, particularly for households at marginal levels of affordability. This additional investigation should focus on the following two issues:

### **Issue 1:**

#### ***Are There Opportunities For Particular Household Groups To Adjust Certain Financing Assumptions To Make The House Form More Affordable?***

As mentioned previously in Step A.2, estimated household purchasing power is determined using certain financing guidelines. Some of these guidelines, particularly interest rates, can significantly influence affordability. For example, lowering the assumed interest rate by 2 per cent would increase the purchasing power of a non-family "younger household" (25-34 years) at the 60th income percentile by about 20 per cent (\$150,000 to about \$180,000), all other factors being equal. This could result in semi-detached and attached (street-related) house forms, previously only "marginally" affordable, entering into that household's affordability range.

Figure 27: Housing Affordability At 30th Income Percentile - Town Of Richmond Hill

FAMILY HOUSEHOLDS			ESTIMATED MINIMUM HOUSE PRICE <sup>1</sup>			
Household Life Cycle Group <sup>2</sup>		Estimated <sup>3</sup> Purchasing Power	Detached \$195,000	Semi-Detached \$160,000	Attached	
					Street-Related \$140,000	Non Street-Related \$110,000
Younger Households	15 - 24	\$ 85,000	●	●	●	●
	25 - 34	\$180,000	◐	○	○	○
Middle-Aged Households	35 - 44	\$220,000	○	○	○	○
	45 - 54	\$270,000	○	○	○	○
	55 - 64	\$205,000	◐	○	○	○
Older Households	65+	\$130,000	○	●	◐	○
NON-FAMILY HOUSEHOLDS			ESTIMATED MINIMUM HOUSE PRICE <sup>1</sup>			
Household Life Cycle Group <sup>2</sup>		Estimated <sup>3</sup> Purchasing Power	Detached \$195,000	Semi-Detached \$160,000	Attached	
					Street-Related \$140,000	Non Street-Related \$110,000
Younger Households	15 - 24	\$ 35,000	●	●	●	●
	25 - 34	\$ 85,000	●	●	●	●
Middle-Aged Households	35 - 44	\$100,000	●	●	●	◐
	45 - 54	\$105,000	●	●	●	◐
	55 - 64	\$ 65,000	●	●	●	●
Older Households	65+	\$ 60,000	●	●	●	●

- Affordable: "Estimated Purchasing Power Exceeds Minimum House Form Price By At Least 10 Per Cent"
- ◐ Marginal: "Estimated Purchasing Power Within 10 Per Cent ± Range Of Minimum House Form Price"
- Unaffordable: "Estimated Purchasing Power Below Minimum House Form Price by At Least 10 Per Cent"

<sup>1</sup> See Section II, C.2 Figure 25 for range of estimated house prices. Price shown represents the lowest price in the general house form category.

<sup>2</sup> See Section II, A.2 for description of household life-cycle groups.

<sup>3</sup> See Appendix B for estimated purchasing power by age group and household type (purchasing power rounded to nearest five thousandth).

Figure 28: Housing Affordability At 60th Income Percentile - Town Of Richmond Hill

FAMILY HOUSEHOLDS			ESTIMATED MINIMUM HOUSE PRICE <sup>1</sup>			
Household Life Cycle Group <sup>2</sup>		Estimated <sup>3</sup> Purchasing Power	Detached \$195,000	Semi-Detached \$160,000	Attached	
					Street-Related \$140,000	Non Street-Related \$110,000
Younger Households	15 - 24	\$175,000	●	○	○	○
	25 - 34	\$290,000	○	○	○	○
Middle-Aged Households	35 - 44	\$335,000	○	○	○	○
	45 - 54	\$405,000	○	○	○	○
	55 - 64	\$335,000	○	○	○	○
Older Households	65+	\$215,000	◐	○	○	○
NON-FAMILY HOUSEHOLDS			ESTIMATED MINIMUM HOUSE PRICE <sup>1</sup>			
Household Life Cycle Group <sup>2</sup>		Estimated <sup>3</sup> Purchasing Power	Detached \$195,000	Semi-Detached \$160,000	Attached	
					Street-Related \$140,000	Non Street-Related \$110,000
Younger Households	15 - 24	\$ 80,000	●	●	●	●
	25 - 34	\$150,000	●	◐	◐	○
Middle-Aged Households	35 - 44	\$180,000	◐	○	○	○
	45 - 54	\$195,000	◐	○	○	○
	55 - 64	\$155,000	●	◐	○	○
Older Households	65+	\$ 90,000	●	●	●	●

- Affordable: "Estimated Purchasing Power Exceeds Minimum House Form Price By At Least 10 Per Cent"
- ◐ Marginal: "Estimated Purchasing Power Within 10 Per Cent ± Range Of Minimum House Form Price"
- Unaffordable: "Estimated Purchasing Power Below Minimum House Form Price by At Least 10 Per Cent"

<sup>1</sup> See Section II, C.2 Figure 25 for range of estimated house prices. Price shown represents the lowest price in the general house form category.

<sup>2</sup> See Section II, A.2 for description of household life-cycle groups.

<sup>3</sup> See Appendix B for estimated purchasing power by age group and household type (purchasing power rounded to nearest five thousand).

Lower downpayments in the range of 10 to 25 per cent are also available to home owners provided adequate mortgage insurance is secured through a private insurer or the government (Canada Mortgage and Housing Corporation). Downpayments as low as 5 per cent are currently available to first-time buyers. However, while a lower downpayment certainly does make it easier to buy a house (typically a major impediment for many younger households with relatively low savings), it increases the amount of mortgage to be financed on the same amount of income. All other factors being equal, this could result in the household paying more than 30 per cent of their gross income on housing costs or requiring greater income to maintain affordability. In general, all other financing guidelines being equal, lower downpayments may help many buyers get into the ownership market, but they do not make the house form more affordable.

"Older households" also provide a relatively unique affordability circumstance because many may actually have considerable equity in existing homes which can be used as a downpayment for the purchase of another home (often 100 per cent). As such, although income is relatively reduced for older households (due to retirement), it may be inappropriate to assume the range of house forms in Figures 27 and 28 are inherently unaffordable without further examining the asset circumstances of older households.

## **Issue 2:**

### ***Are There Particular Attributes That A Household Would Be Willing To "Trade-Off" To Make The House Form More Affordable?***

This type of assessment was recently completed (1992) by the Housing Opportunity Centre of the Region of Peel Housing Department. The *Affordable Homeownership Report* surveyed moderate income households to determine what housing attributes were preferred and what prospective buyers would be willing to trade-off to make homeownership more affordable. The study found that many prospective home owners would be willing to trade off certain features in order to make the purchase price more affordable, as described in the following excerpt from the report's Executive Summary:

*"The respondents would be willing to accept one less bedroom and bathroom than they had originally wanted. They indicated that they would not be willing to give up internal living space, although they would most likely have to. The respondents are not willing to give up a basement or a garage. However, the respondents are willing to accept a smaller lot provided they do not have to give up a private backyard. They are also interested in completing some of the work themselves, such as painting the interior and finishing the basement, as a way of reducing the purchase price.*

*The respondents have indicated that they would purchase a home regulated by the government,*

*assuming they could lease the land at a minimal cost. This is a significant finding and one way of reducing the purchase price of the home. While ownership is important, (some) potential homeowners are willing to give up full control over land ownership. Market tenants and applicants have indicated that they would prefer to purchase a detached home. However, they would consider purchasing a semi-detached dwelling unit or a townhouse."*

particularly non-families (and single-parents) at the 30th income percentile, lack of income is likely to provide a significant obstacle to affordable home ownership unless there is some degree of income or financing subsidy or guarantee provided, as well.

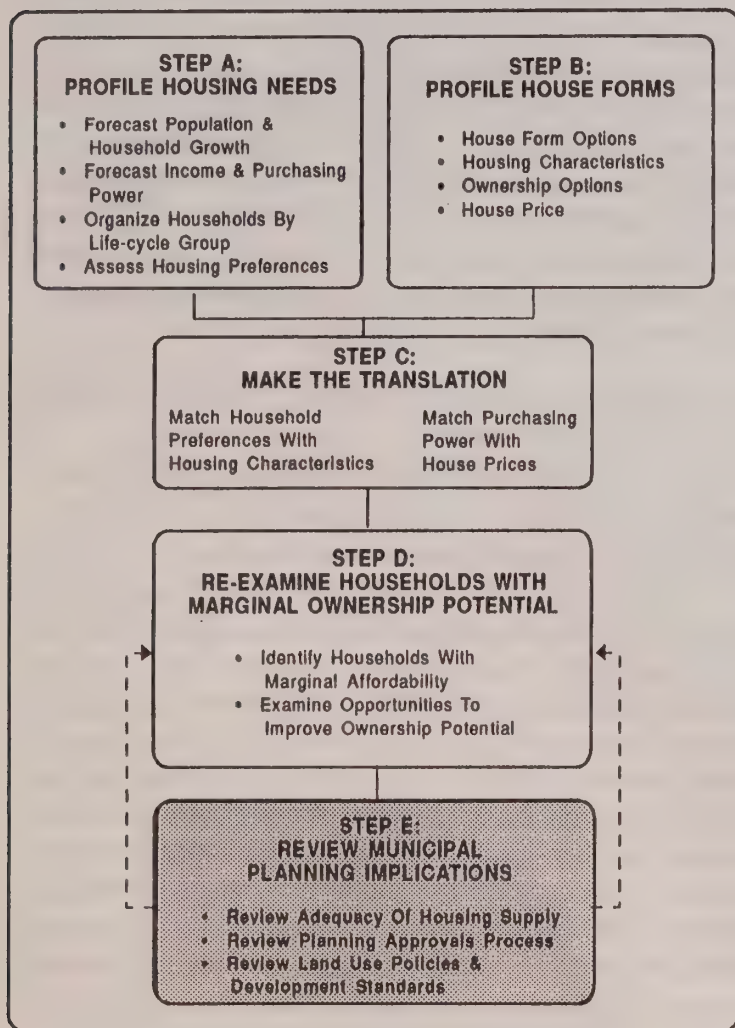
Brethour Research in their *Market Study of Alternative Development Standards* for the Region of Ottawa Carleton (1992) also concluded that prospective homeowners, while preferring single-detached homes, would be willing to accept significant design and construction feature modification to make ownership more affordable.

Those studies highlight some valuable insights that could be gained by pursuing a study of housing preferences and acceptable compromises within municipalities or across the GTA. Again, this might be an opportunity to undertake joint public-private sector investigations at a specified period in time through either surveys or focus group sessions.

The above studies also indicated that there certainly appear to be opportunities to make home ownership more affordable, particularly for modest income households who may be close to being able to purchase a home (i.e. purchasing power within 10 percent of minimum affordable price). Consideration must also be given to reducing regulations and development standards which lower the cost of producing housing. However, for some households,

## STEP E: REVIEW MUNICIPAL PLANNING IMPLICATIONS

Figure 29: Step E - Review Municipal Planning Implications



In this final step, municipalities should examine the planning implications associated with using and applying the suggested approach. This could include reviewing the adequacy of the housing supply based on the anticipated housing needs profile. It could also involve reviewing their existing planning approval process and examining land use policies and development standards, with a view to encouraging an appropriate range and mix of affordable ownership housing.

A discussion of those issues is provided in the following sub-sections:

E.1: Review Adequacy Of Housing Supply;

E.2: Review Planning Approvals Process; and

E.3: Review Land Use Policies And Development Standards.

## E.1 REVIEW ADEQUACY OF HOUSING SUPPLY

Having applied the suggested approach for all life-cycle groups, municipalities should review the adequacy of their potential supply of new housing based on the anticipated housing needs profile.

For example, based on the hypothetical housing needs profile prepared in this report, a major component of the housing supply should be oriented to the needs of middle-aged households. The vast majority of those households are anticipated to be families. As previously reviewed in Step D, a full range of house forms are affordable to this general life-cycle group. Given this, their housing choices would likely be significantly influenced by their preferences. Given historic occupancy patterns, an analysis of such preferences would probably reveal a strong orientation to street-related house forms, particularly single-detached.

Although a smaller component of the expected growth, the housing supply must also respond to the needs of younger households and older households. Most of these households are anticipated to be non-families. As previously described in Step D, due to relatively limited purchasing power, affordable home ownership opportunities for many of these households are most likely to be met through attached and possibly, semi-detached house forms. Given historic occupancy patterns, an analysis of non-family households would probably reveal a strong preference for the attributes characteristic of attached house forms, such as apartments.

Based on this understanding of the future housing needs profile, a municipality can then examine its existing housing

stock, as well as the potential supply from new construction planned for the period of time being considered (in this study, five years). If some of the housing needs are not likely to be met either through the resale market or through anticipated new construction, the municipality could then consider ways of encouraging production of the needed house forms. As some of the forecasting assumptions involve sensitive issues and steps, it would be inappropriate for a municipality to set rigid housing targets through prescriptive planning policy. Rather, as discussed in the next sections, the needed house forms, in terms of their type and number of units needed, could be encouraged through communication to members of the development industry and through elimination of any planning policy and development standard impediments to producing those forms.

## E.2 REVIEW PLANNING APPROVALS PROCESS

In order to encourage the production of needed house forms, a municipality should examine its planning approval process to identify any potential impediments.

The Provincial Housing Policy Statement indicates that the planning approvals process should be streamlined to help reduce the cost of housing and to encourage the market to respond effectively to housing needs. The planning approvals process related to producing new housing has become increasingly complex and can discourage the timely provision of innovative affordable housing to meet identified needs. In general, this complexity stems from the multiplicity of public agency interests and approval requirements, many of which are beyond municipal control.

The municipality should, however, take appropriate steps to examine the approvals process related to Official Plan and Zoning By-law approvals, land subdivision practices, site plan review and building permit procedures to ensure that these processes are doing all they can to encourage the production of a range of affordable house forms. For example, in newly developing areas, the practice of establishing Official Plan and Zoning By-law regulations for house forms and densities in the absence of urban design and/or built form concept plans can discourage innovation in house forms and community design if the municipal policies effectively rule out different approaches. Rather, if the process is adjusted to allow urban design and built form considerations to be introduced early in the planning process, the Secondary Plan and Zoning By-law regulations can be drafted to encourage flexibility and innovation.

### **E.3 REVIEW LAND USE POLICIES AND DEVELOPMENT STANDARDS**

In this step, municipalities should examine their land use policies and development standards to encourage the full range of house forms which could meet the identified needs.

Presently, municipalities tend to allocate residential density and house forms in a hierarchical and relatively restrictive manner. The current process involves the preparation of Official (or Secondary) Plans to guide the general location of residential uses and density across a municipality or specific area (e.g. a neighbourhood or community). Typically, single and semi-detached house forms are permitted within "low density" residential designations with attached house forms such as townhouses and apartment

buildings being allowed within "medium density" and "high density" designations, respectively. These designations are often allocated following a hierarchy of roads, with low density housing within the interior of communities along local streets and medium density housing along collector and arterial streets. Zoning By-laws further articulate more specific use, density and development standards on particular parcels of land within each land use category. Site plan control is often applied, but is usually restricted to detailing certain site planning and design issues once the house form and building envelope have been set through zoning.

This process often results in segregated residential communities with limited mixing of house forms. As previously illustrated in this report, certain single and semi-detached house forms can be produced at net residential densities comparable to on-street townhouses and low-rise apartment buildings. However, typically many of these denser forms of single and semi-detached house forms would not be permitted because the maximum density caps in the Official Plan and Zoning By-law would be too low.

The urban design concept and built form plan for "Fletchers Meadow", illustrated in Figures 30 and 31 provide an example of a more innovative way of approaching the integration of a range of house forms into a newly developing community in Brampton. The urban design concept in Figure 30 generally illustrates the proposed community's development pattern with major roads, uses and building forms, conceptually identified. One of the major roads, the "Main Street", acts as the community's "spine", providing a linear setting for multi-storey buildings and a mixture of uses.

Figure 30: Fletchers Meadow, Brampton. Urban Design Concept.

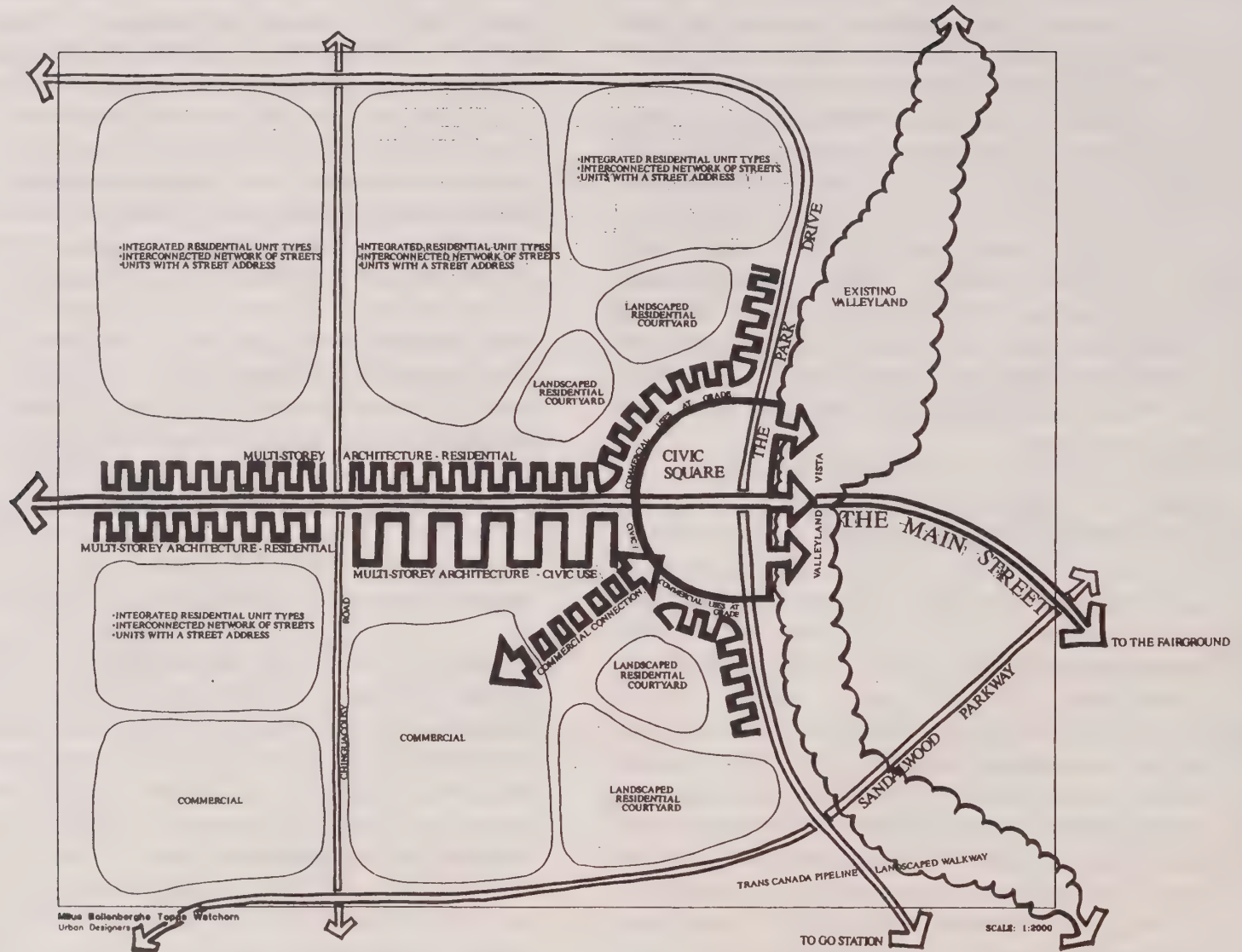
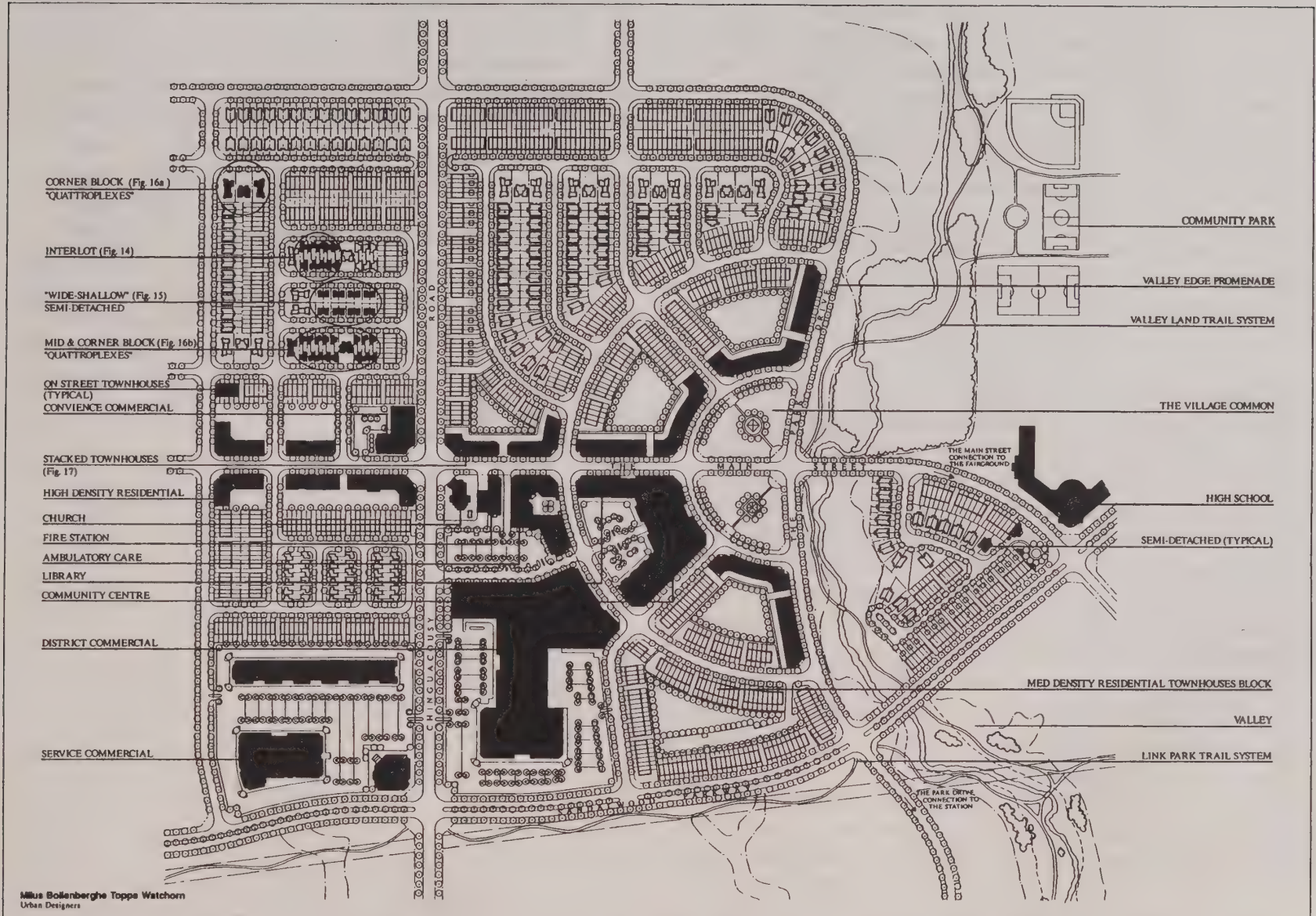


Figure 31: Fletchers Meadow, Brampton. Built Form Plan.



Along the "Main Street" a civic square framed by mixed-use, multi-storey buildings with commercial uses at-grade, opens onto the existing valleyland. An integrated range of residential unit types, some of which are street-related, others which are arranged around landscaped courtyards, are distributed throughout the community. These general principles are articulated through a built form plan as illustrated in Figure 31. Figure 31 identifies the proposed location of a number of house forms within the community, some of which are relatively innovative including the interlot single-detached, wide-shallow semi-detached, quattroplexes and stacked townhouses. Each of these house forms was previously profiled in this report in Figure's 14 to 17.

A guiding principle of the Fletchers Meadow community design is the relatively fine-grained distribution of a range of house forms having comparable net residential densities that are physically compatible. Opportunities to accommodate a wider range of affordable ownership housing, marketable to all rather than a few household life-cycles, are provided. Net densities within the areas containing street-related house forms are much higher than traditional "low density residential" areas. The Secondary Plan policies and zoning standards are flexible with respect to house forms and contain density and height guidelines which relate to desired built form and community design relationships. Urban design guidelines, addressing such matters as building siting, private amenity space and parking, are used to review subdivision plans, site plans and building permit approvals. This type of plan and process encourages a range of affordable house forms without the need for subsequent site-specific Official Plan and Zoning By-law amendments. It

also provides greater flexibility for builders to respond to changing market conditions and housing needs as the community develops.

An investigation of potential standards influencing development of both the private realm (i.e. buildings on lots and blocks) and the public realm (the public portions of a community such as roads, schools, parks, utilities) should also be considered. A study of alternative development standards is presently being completed by the Province's Ministry of Housing. This study is primarily focused on public road and engineering standards but some consideration is being given to expanding the study to include other community services and amenities such as schools and parks. A market study of alternative development standards was also recently completed (1992) by Brethour Research Associates for the Region of Ottawa-Carleton.

### III CONCLUSION



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### III CONCLUSION

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The Province's *Land Use Planning For Housing Policy Statement* indicates that municipalities must plan for a range and mix of housing to meet a full range of housing needs. Since the Policy Statement's approval in 1989, municipalities and the private sector, particularly in the Greater Toronto Area (GTA), have experienced difficulties in clearly identifying a full range of affordable housing products which could meet identified needs. The purpose of this study was to develop and apply a comprehensive methodology to assess the housing needs of moderate income households (those between the 30th and 60th income percentiles) and translate them into a range of affordable and marketable ownership house forms which could be produced in a municipality by the private sector. Application of the approach described in this report will address this objective and assist in a more effective implementation of the Provincial housing policy.

Although the housing needs methodology was illustrated at a local municipal level, it could also be applied at a regional scale. Similarly, while the approach used to translate housing needs into house forms was described using one household life-cycle group, it could be applied to the other life-cycle groups in the same manner as in this report.

Having undertaken this study, some of the key realizations are:

- It is possible to develop a relatively fine-grained mixture of affordable house forms which have relatively high net residential densities in a range of physically compatible built forms. Single and semi-detached housing can be developed as densely (i.e.  $\pm$  20 upa) as some townhouse and low-rise apartments. This suggests a need to re-think the way traditional low, medium and high density residential land use designations and zoning are approached;
- There is a wide range of house forms presently being developed in the GTA which could likely meet the housing needs of most moderate income family households. Some non-family households (i.e. single persons) and single-parent families face obstacles to home ownership, particularly toward the low end of the moderate income range (i.e. 30th percentile). Opportunities to improve home ownership and enhance affordability for these households should continue to be examined;
- The lack of wide-spread development of some of the more innovative house forms suggests potential opportunities for their greater use throughout the GTA, through both the intensification of existing communities and the development of new communities; and

- There are ways of assessing municipal housing needs which consider broader population and household trends. Housing needs can be profiled from both a quantitative and qualitative perspective, and can provide insight into the future orientation of a municipality's housing market. However, as some of the forecasting assumptions involve sensitive issues and steps, it would be inappropriate for a municipality to set rigid housing targets through prescriptive planning policy. Rather, having prepared a housing needs profile, it may be more appropriate to use the information to establish flexible guidelines regarding the type and amount of housing which could accommodate the profiled housing needs of the municipality. Provision of the needed house forms could then be encouraged through communication with the development industry and elimination of potential planning policy and development standards which may be impeding the production of those forms.

The Steering Committee should take a leadership role by developing and implementing a strategy to communicate the results of this report, including the methodology. The strategy should consider potential ways to address some of the information barriers described in this report, such as:

- Establishing moderate income household preferences, and acceptable compromises, across the GTA and its sub-markets;

- Developing a comprehensive approach to gathering price information across the GTA and its sub-markets;
- Examining the role of the resale housing market in establishing the need for new affordable ownership housing across the GTA and in its sub-markets; and
- The need for special Census information requests from Statistics Canada (e.g. household and family composition, occupancy and income data) organized by age group to facilitate the completion of housing needs profiles.

The communication strategy should also acknowledge this study's relationship and usefulness to other relevant studies including, but not limited to:

- The Urban Density Study being undertaken by the Office For The Greater Toronto Area and the Ministries of Housing and Municipal Affairs;
- A study being undertaken for the Ministry of Housing outlining an appropriate way of determining housing needs (all incomes) across the Province; and
- A study being undertaken for the Ministries of Housing and Municipal Affairs examining Alternate Development Standards.

The Steering Committee should also consider how to prepare and distribute information related to affordable house forms, perhaps by co-ordinating municipal and public workshops,

and/or through promoting the establishment of public-private partnerships to undertake examples of new housing developments ("demonstration projects"). This would ensure a more consistent approach towards the design, marketability, community acceptance and cost related to the wide range of house forms highlighted in this report throughout the Greater Toronto Area.

Municipalities examining this report could take the following steps in an effort to apply the suggested approach:

- Review the adequacy of their housing supply based on anticipated needs; and
- Review the existing planning approvals process and development standards to ensure that they encourage a range and mix of affordable and marketable ownership house forms.



# APPENDICES



## APPENDIX A



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## APPENDIX A: STEERING COMMITTEE MEMBERS

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Name	Title
George Baird	Partner Baird/Sampson Architects
Chris Burke	Senior Policy Co-ordinator Office for the Greater Toronto Area
Scott Burns	Partner Hemson Consulting Ltd.
David Collinson	Senior Planner Town of Richmond Hill
Valerie Cranmer	Director - Strategic Planning Regional Municipality of Durham
Allan Douglas	Housing Analyst Ministry of Housing
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## APPENDIX B



## Appendix C



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## Appendix C: GLOSSARY

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### Affordable Housing:

Affordable means annual housing costs that do not exceed 30 per cent of gross annual household income. Affordable housing has a market price or rent that is affordable to households with low and moderate income. Households of low and moderate income are defined as households within the lowest 60 per cent of the income distribution for a given area.

### At-Grade:

In planning, used to describe a unit or building at ground level. The front door of a single detached home is most often at ground level or "at-grade". Conversely, underground parking is "below-grade", and apartment units are often "above-grade".

### Casita:

A term used to describe a house form similar to a stacked townhouse (see Figure 17) which allows the vertical layering of residential units above each other while maintaining a street-related entrance for each unit. In the case of a casita, the stacked units are provided back-to-back, thus they have no rear yards.

### Cohort Survival Model:

In population forecasting, the cohort survival technique considers future populations in terms of "cohorts" or age groups (e.g. ages 15-19, 20-24, 25-29 etc.). To arrive at a forecast of population at a future date in a given area: beginning with the existing population of each cohort, the potential natural increase (births less deaths) is added, plus the expected migration into an area of people of the same age.

### Convertible (or Expandable) Unit:

A unit that has the potential for conversion or expansion built into it. An example is constructing a house frame with sufficient specifications to add a floor in the future. Another example is the provision of "roughed-in" plumbing to allow the construction of an additional bathroom some time in the future. The benefits of an "expandable unit" are less expensive upfront costs and increased flexibility of a home to change with a household as it moves from one life-cycle to the next.

### Headship Rate:

The household headship rate is the propensity by age for a person to be the household maintainer of either a family or non-family household (the household maintainer used to be

referred to as the *head* of the household, hence the term "headship" rate). For example, if the 1991 family headship rate for persons aged 40-44 years was 45.1 per cent, then 45 of every 100 people in this age group were household maintainers.

In terms of population forecasting, knowing the current headship rate of a given population allows us to calculate the expected number of households in a forecasted population. And if we know how many households there may be, we can determine how many housing units will be required in the future to accommodate those households.

### **House Form:**

House form is a term used for the purposes of this study to describe and categorize dwellings in terms of their predominant physical characteristics. Housing units come in many different types of forms. Apartments, which are often compact, several stories above street level and are accessed through a communal entrance and interior hallways are a different *form* of housing from a semi-detached home which is often larger, shares only one wall with another unit, has front and back yards and is accessed directly from the street. This study considers some of the more innovative forms of housing available in the Greater Toronto Area today, where the innovations are in the layout of rooms inside the dwelling, the dimensions of the lot, or the relationship to surrounding units.

### **Household -- Family:**

Family household refers to a household that contains at least one census family, where a census family is a married or common-law couple with or without children or a lone parent living with one or more children.

### **Household -- Non-Family:**

Non-family household refers to either one person living alone in a private dwelling, or to a group of two or more people who share a private dwelling, but who do not constitute a census family.

### **Housing Need:**

With respect to housing, the term "need" can be used with varying degrees of intensity, from an urgent requirement for shelter to a less crucial desire for an improved living space. For moderate-income households, it is not the requirement for shelter that is at issue. Rather, housing decisions involve a trade-off between preferences and the ability to pay. For households with choices, the term "need" is a difficult one to apply and assess.

### **Housing Needs Profile:**

A product of this study, a Housing Needs Profile, is a compilation of data put together for each life-cycle group listing the estimated growth in households, both family and non-family, in addition to past occupancy characteristics and purchasing power. The Profile should also include the results of a survey of housing preferences for that life-cycle group.

The result would be quantitative and qualitative summary of the housing needs of a particular life-cycle group.

### **Housing Preferences:**

These are the features that people look for when seeking a housing unit. Examples are: a certain unit size and number of bedrooms; private outdoor space; street presence; type of car parking space; storage capacity; varying degrees of responsibility for maintenance and flexibility for expansion; and others.

### **Income Percentile:**

From the total range of incomes in a given area, 100 points are spaced at equal intervals, each point denoting that percentage of the total cases lying below it. Thus, 1, 10, 20 per cent of the incomes are below the first, 10th, and 20th percentiles, respectively.

### **Life-Cycle Group:**

During their lifetime, people progress through many stages, possibly including: school; work; marriage; child-rearing; separation; divorce; remarriage; and retirement. Lifestyle changes generally occur as people move from one stage to another, including changes in household formation, housing preferences and income. Life-cycle groups are used in this study to categorize people by age for the purposes of analyzing such changes (see Figure 6, pg. 12). For further simplification, the life-cycle groups are brought together into three generic household types: a "Younger Household" is one where the household maintainer is 25 to 34 years old;

a "Middle Aged Household" is one where the household maintainer is 35 to 64 years old, and an "Older Household" is one where the household maintainer is 65 years of age or older.

### **Municipal Housing Statement:**

A Municipal Housing Statement defines the role of a municipality in the provision and maintenance of housing. The Province's *Land Use Planning For Housing Policy Statement* requires municipalities to provide the opportunity, through the land use planning process, for the development of a variety of housing types. Housing policies are to be included in official (local land use) plans. In preparing a Municipal Housing Statement many background studies may be undertaken: demographic analyses, housing needs and supply analyses, infrastructure review, identification of residential intensification potential, and examination of the variety and mix of housing stock. By preparing a Statement, a municipality will set housing policies that can be used in the preparation or amendment of official plans as required by the Provincial Policy statement.

### **Net Density:**

Refers to the number of housing units which can be accommodated per acre of residential land, exclusive of any public components (i.e. public roads, public open space, etc.).

**Purchasing Power:**

The estimated range in house prices that a given life-cycle group is able to afford, where 30 per cent of its gross annual income is equal to rental or mortgage and property tax payments.

**Street Presence:**

To determine whether a housing unit has "street presence" is largely a subjective feeling. Generally, a building or unit would face the street, be in close proximity to the thoroughfare, and have an easily identifiable entrance.

**Street-Related:**

Refers to a housing unit that has its own street address and its primary access directly from the street. An apartment unit is generally not street-related as the primary access to the unit is internal from a lobby or hallway.

**Tenure -- Freehold/Condominium:**

Tenure is a term used to describe how a unit is legally held by its occupant. "Freehold" is used to describe a unit or property that is held outright by its owner. "Condominium" describes units within a housing complex that are held separately by individuals who participate in a corporation owning and managing the common areas in the complex.

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## APPENDIX B: HOUSING NEEDS ASSESSMENT METHODOLOGY AND RESULTS OF ANALYSIS

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The purpose of this Appendix is to provide a detailed description of a methodology that could be used to assess housing needs at a Greater Toronto Area (GTA), regional or area municipal level. The aim of the housing needs assessment presented in this report is to determine the housing requirements for moderate income households (30th to 60th income percentile) for a municipality within the GTA over the next five years. Such an assessment involves a complex process of integrating analyses of population, housing, and income. This Appendix is intended, therefore, to present a step-by-step explanation of a methodology that could be employed to undertake this analysis. The Appendix is set out in three sections:

B.1 Forecasting at a Regional Level;

B.2 Forecasting at a Local Municipal Level; and

B.3 Conclusion

Throughout this Appendix the analysis and its methodology are presented using Richmond Hill as an example to illustrate how the analysis can be undertaken. However, the methodology can be applied to other municipalities in the GTA, at the regional or local level, and can employ a longer forecast period.

In preparing a forecast, it is critical that the technical analysis consider planning policy issues. Throughout the Appendix the key forecasting assumptions and inputs that involved planning policy inputs during the preparation of the study are noted. It is equally imperative that policy objectives and issues of reconciliation between planning policy and technical analysis are considered within the context of the housing needs assessment methodology presented.

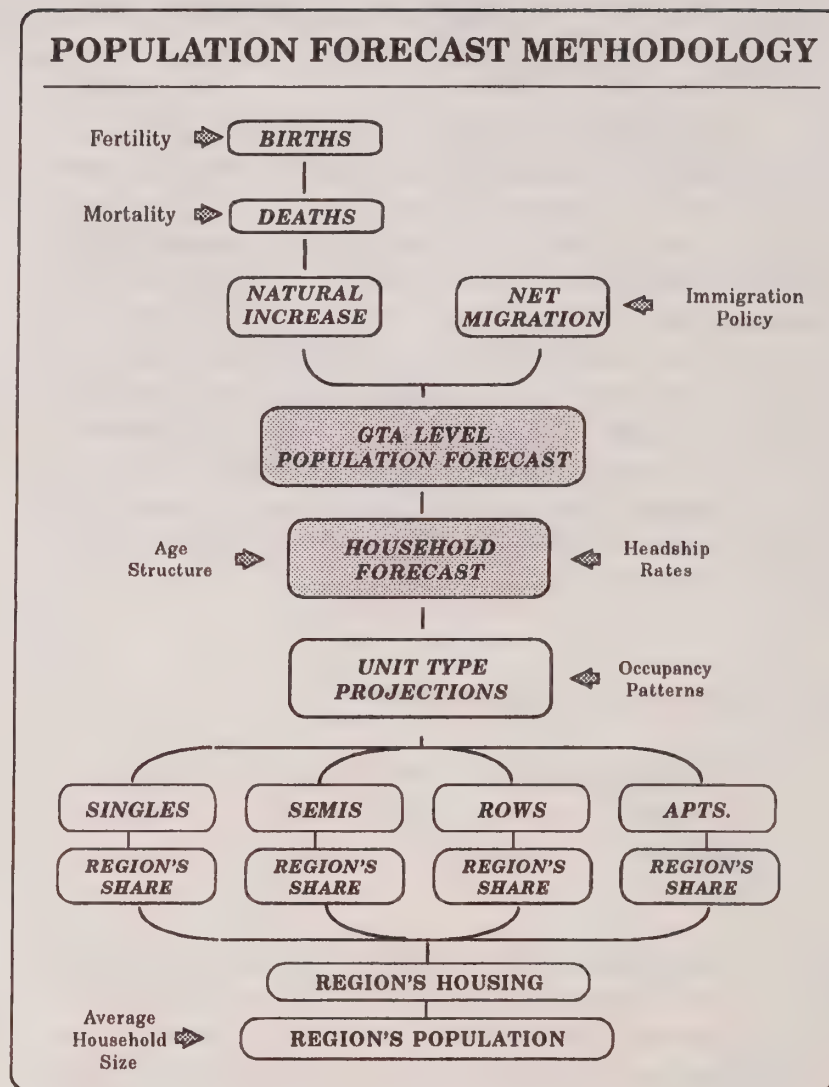
## B.1 FORECASTING AT A REGIONAL LEVEL

The Terms of Reference for this assignment outlined the need for the establishment of a methodology that can be employed to assess housing needs in municipalities across the Greater Toronto Area (GTA). A key to undertaking such an assessment is the ability to effectively forecast population and housing. This section of the Appendix describes a methodology that was recently used by the Greater Toronto Coordinating Committee (GTCC) to update population, housing and employment forecasts in the regions of the GTA. The description of this methodology is intended to be brief as it is not feasible to present a detailed description in this report. Provincial and regional policy makers have undertaken extensive discussions to determine an appropriate methodology for completing the GTA forecasts update. The report, entitled *The Outlook For Population & Employment In The GTA*, was released to the public in September 1993.

The following points outline the key elements in the process of forecasting population at the GTA level. This process is presented graphically in Figure 1.

- The population forecast at the GTA level is a standard "cohort survival" model. Key inputs into this model include rates of fertility and mortality and migration. Migration is the most sensitive input to the forecast and is based on the economic and employment outlook for the GTA, as well as the federal government's immigration policy.

Figure 1



- The following describes a method of determining the distribution (internal migration) of population within the GTA. This internal migration is determined using a household-based and housing-based model:

- GTA forecast population is translated into forecast households by applying age-specific headship rates (i.e. the rate at which people form households). For example, a 20 per cent headship rate for 1,000 people in the 20-24 age group results in the formation of 200 households.
- The total number of households (determined by headship rates) are projected into forecast housing units by type by applying age-specific occupancy pattern rates (i.e. of the 200 households formed by the 1,000 people aged 20-24 some will occupy single-detached units, others will occupy rows and apartment units).
- The need for additional housing units (or future housing growth) is distributed to the regional market areas of the GTA by using market shares, where the market share for a given area is based on historic market patterns (based on long-term Census data and on CMHC construction data for short-term trends), land supply and planning policy.

- The housing units determined for each region are converted back into population by applying an average household size. The average household size in a short-term forecast would be largely based on the most recent average household sizes in the Census results.

The result of this process is a forecast of households, housing by type and population for each region in the GTA.

This section of the Appendix has provided a brief overview of the GTA level forecast methodology. The reader is encouraged to consult the GTCC Report, *The Outlook For Population & Employment In The GTA*, for an extensive documentation of the methodology, assumptions and results of the GTA forecasting exercise. The report is available from the Province's Office For The Greater Toronto Area.

## B.2 FORECASTING AT A LOCAL MUNICIPAL LEVEL

The previous section provided a review of a top-down approach to determining population from the GTA down to the regional level. The next step is to determine population from the regional level down to the municipal level (e.g. from York Region to Richmond Hill). This can be done by determining each local area municipality's share of the region's total housing market to forecast growth and applying total average household sizes to the total households to determine total population. This approach assumes consistency with the regional population forecast. This total population forms the key input into the local area forecast discussed in the next section.

The following section provides a discussion of a forecast methodology that determines the future composition of population and determines housing levels for sub-areas within the GTA, once a forecast total population for these municipalities has been determined. As the aim of this assignment is to assess housing need, throughout the methodology discussion sections of the actual forecast are provided to assist the reader in understanding the analysis.

The presentation of the methodology is divided into three parts. Part 1 provides the population component of the forecast, Part 2 the housing/household component, and Part 3 shows the income and purchasing power component.

### *Part 1: The Local Area Population Forecast*

As noted in the first section, (B.1) the GTA population forecast uses a standard cohort survival model to forecast population. There are three traditional inputs to cohort survival models: fertility, mortality and migration. The model takes these factors into account when forecasting population according to five year age groups. For the purpose of forecasting at the GTA sub-market level, however, this methodology must be modified. This "modified" cohort survival model assumes that migration will occur at a rate that results in population growth and that is consistent with the upper-tier regional forecast. In this way it is possible to estimate the changing age structure of the population within a GTA sub-market.

- **Age-Specific Population Profiles Are Used As A Base**

From the Census, there are a known number of people in each age group as of 1991 (see Figure 2). By 1996, in any given age group, people will be five years older. During the five years some will have died, some will have had children, some will have moved out of the municipality and others, in their age group, will have moved into the municipality.

For example, the group aged 20-24 in 1991 becomes the forecast group aged 25-29 in 1996 and 30-34 in 2001. In each period adjustments to their numbers are made for mortality and net migration. Births from this group in each period contribute to the population group aged 0-4.

Figure 2

**PART I: THE LOCAL MUNICIPAL POPULATION FORECAST**  
**Richmond Hill 1996 Population of 104,100**

1991 POPULATION				Mortality Rates			Fertility	Dist. Of Net Migrants	
	Total	Male	Female	Male	Female	Rate			
Total	80,145	39,435	40,710				3.89%	3.86%	
0 - 4	6,640	3,370	3,270	0.0013	0.0014	0.0000	3.93%	3.58%	
5 - 9	6,075	3,120	2,955	0.0001	0.0001	0.0000	4.27%	4.15%	
10 - 14	5,500	2,810	2,690	0.0001	0.0002	0.0000	4.65%	3.99%	
15 - 19	5,300	2,795	2,505	0.0006	0.0002	0.0089	4.12%	4.28%	
20 - 24	5,685	2,775	2,910	0.0006	0.0002	0.0592	3.75%	5.24%	
25 - 29	7,180	3,450	3,730	0.0007	0.0004	0.1701	5.11%	5.94%	
30 - 34	7,915	3,705	4,210	0.0005	0.0004	0.1263	3.82%	4.69%	
35 - 39	7,285	3,350	3,935	0.0009	0.0008	0.0394	4.34%	4.46%	
40 - 44	7,365	3,645	3,720	0.0019	0.0009	0.0050	3.15%	3.04%	
45 - 49	5,000	2,600	2,400	0.0022	0.0013	0.0000	3.18%	2.23%	
50 - 54	4,055	2,130	1,925	0.0030	0.0038	0.0000	2.02%	1.63%	
55 - 59	3,295	1,730	1,565	0.0065	0.0039	0.0000	1.26%	1.06%	
60 - 64	2,865	1,425	1,440	0.0115	0.0062	0.0000	0.50%	0.59%	
65 - 69	1,930	853	1,078	0.0276	0.0153	0.0000	0.89%	0.85%	
70 - 74	1,930	853	1,078	0.0302	0.0158	0.0000	0.48%	0.34%	
75+	2,125	825	1,300	0.0541	0.0320	0.0000	0.14%	0.42%	

1996 POPULATION				1996 NATURAL POPULATION BASE				NET MIGRATION (1991-1996)		
	Total	Male	Female	Births	Total	Male	Female	Total	Male	Female
Total	104,100	51,363	52,737	8,486	86,544	42,663	43,880	17,556	8,699	8,857
0 - 4	9,033	4,618	4,415	0	7,672	3,936	3,736	1,361	682	678
5 - 9	7,914	4,039	3,875	0	6,596	3,349	3,247	1,319	691	628
10 - 14	7,551	3,868	3,682	0	6,073	3,119	2,953	1,478	749	729
15 - 19	7,014	3,625	3,389	151	5,496	2,808	2,688	1,518	817	701
20 - 24	6,764	3,511	3,254	963	5,289	2,787	2,503	1,475	724	751
25 - 29	7,251	3,424	3,827	3,255	5,673	2,766	2,906	1,578	658	920
30 - 34	9,103	4,337	4,766	3,010	7,162	3,439	3,723	1,941	898	1,043
35 - 39	9,387	4,362	5,025	990	7,892	3,691	4,201	1,494	671	824
40 - 44	8,805	4,102	4,702	118	7,260	3,341	3,919	1,545	761	783
45 - 49	8,417	4,181	4,236	0	7,331	3,628	3,703	1,086	553	533
50 - 54	5,909	3,133	2,776	0	4,960	2,576	2,384	950	558	392
55 - 59	4,636	2,461	2,175	0	3,995	2,107	1,888	641	354	287
60 - 64	3,615	1,895	1,720	0	3,209	1,674	1,535	406	220	186
65 - 69	2,932	1,432	1,500	0	2,741	1,345	1,396	191	87	104
70 - 74	2,045	898	1,146	0	1,739	741	998	306	157	149
75+	1,870	815	1,055	0	1,727	731	995	143	83	60

Source: Hemson Consulting Ltd., Forecast Model Based On Data From Statistics Canada.

Future population growth can then be estimated by five year age groups based on natural increase (births minus deaths) and migration. This process is repeated for each age group in each period, providing a population by five year age groups in each Census year from 1991 to 1996 (or longer into the future, if desired).

- **Fertility And Mortality Assumptions Are Age-Specific Rates**

The fertility and mortality rates (see Figure 2) are applied on an age-specific level and are derived from Statistics Canada publications showing births and deaths. The rates used in the forecast are an average of the most recent five year rates.

The fertility rates for each five year age group describe the number of children born annually to each female in that age group. For example, a fertility rate of 0.116 in an age group would mean that 116 children would be born annually to each 1000 women in that age group.

Fertility rates, after a period of decline during the 1960s and into the 1970s, stabilized in the 1980s. In the late 1980s rates began to rise again, but not sufficiently to indicate a major change in fertility rate trends (this is distinct from the age structure or baby-boom echo effect that would have meant rapid increases in the absolute number of births in the late 1980s even without any change in the *age-specific rates*).

There is a long-term trend for declining mortality rates, but the change was very slow in the 1980s. Like the fertility rates, the mortality rates are age and sex-specific so that, for example, a mortality rate of 0.0108 for a five-year age group means 10.8 deaths would be expected annually among each 1,000 people in that group.

In setting the future fertility and mortality assumptions for the forecast, consideration is given to how much these rates are anticipated to change. Since major changes are not anticipated, current rates are considered sufficient for the forecast.

- **Migration To Region/Municipality Is Set To A Level That Produces A Predetermined Population Growth**

As a contributor to population growth in GTA municipalities, migration is much more variable and less predictable than natural increase (fertility and mortality) and is, therefore, much more sensitive. Using a "modified" cohort-survival model, however, the difficult task of estimating future migration is made easier because migration is simply set at a level that yields a predetermined level of population growth consistent with upper-tier regional forecasts. The age distribution (Figure 2) of migrants is assumed to be the same as historic patterns; here the Richmond Hill 1986-1991 age distribution of migrants was assumed.

In the Richmond Hill example, migration is set at approximately 17,500 during the 1991 to 1996 period as this level of migration, when added to the natural population base in 1996, will yield a 1996 total population of 104,100 (Figure 2). This 1996 population level was set (by the Core Liaison Group for this assignment) at the midpoint between regional (108,000) and local (100,000) population growth targets for 1996. The results of this illustrative analysis should in no way prejudice discussions between Richmond Hill and York Region about what the municipality's population should be in 1996.

As a second example, the age structure of York Region's population can be determined by setting a level of net migration to York such that total population in any future year corresponds with the results of the GTA/regional forecasts recently prepared by the GTCC.

A key technical feature of this methodology is that it *keeps track of the age structure* of a municipality's or region's population as its residents age and migrate. This technical feature is vitally important in terms of assessing housing needs.

## **Part 2: The Local Area Housing/Household Forecast**

At either a regional or local level, the next step is to translate the age-specific population forecast into a household forecast by applying age-specific headship rates, the rate at which people form households. The result is a forecast of total households by age group.

For the purposes of this analysis, households are then organized into six "life-cycle" groups according to the age of the household maintainer. This is a well-established concept, despite some limitations associated with the categories. There are predominant characteristics influencing housing choices that occur according to household age.

- **Household Headship Rates**

The household headship rate is the propensity by age for a person to be the household maintainer of either a family or non-family household (the household maintainer used to be referred to as the head of the household, hence the term headship rate). For example, if the 1986 family headship rate for persons aged 40-44 years was 45.1 per cent, this means that 45 of every 100 people in this age group were a household maintainer of a family household. Such a family household could consist of any number of people.

Total headship rates (sum of the rates for family and non-family households) have tended to increase particularly through the 1970s with the delay in age

of first marriage and an increasing divorce rate. These two factors tended to increase the headship rate for the young and the middle aged. Most of these social factors affecting headship rates are considered to have stabilized during the mid-1980s.

The headship rates for the elderly have also increased over time as people live longer, increasing the number of single survivors and, hence, the number of single person households in the older age groups.

The one change that is still occurring is the household response to economic conditions. This particularly affects the young age groups up to thirty years of age, where in difficult economic times, these people will tend to stay with their parents for longer periods than during better times. Other age groups are also affected by economic conditions. For example, the incidence of "doubling-up" (e.g. married people living with parents or vice versa) tends to increase in more difficult economic times.

The decision as an input assumption to the forecast is whether the headship rates should be held constant at 1991 levels or changed in response to changing social or economic factors. In the Richmond Hill example, constant headship rates have been assumed between 1991 and 1996 (Figure 3).

It is proposed that this household forecast should be expressed as a range; in effect, two scenarios. One scenario represents a continuation of recent local area trends (local headship rates are used), the other

represents what might happen if the municipality experienced trends, or desired a profile of housing needs, similar to that at a broader geographic level, such as the GTA (GTA headship rates are used). This range establishes a starting point for a process of reconciling the extent to which a local municipality or a region should accommodate the housing needs of broader market areas.

- **Family Characteristics**

The local municipality's estimated 1996 population by five year age group can also be used to anticipate the family characteristics of future population by applying age-specific family characteristics. In this analysis the propensity to form family and non-family households has been taken from the 1991 Census.

As discussed in the main text of this report, the presence of young children significantly influences housing decisions. Also, many households in some life-cycle groups are typically renters, although many may want to buy. Qualitative and quantitative information on family characteristics would round out the housing need profile.

**PART 2: THE LOCAL MUNICIPAL HOUSING/HOUSEHOLD FORECAST**  
**Richmond Hill 1996 Population of 104,100**

**1991 Existing Family/Non-Family Households Breakdown**

Population	Family Households		Non-Family Household	
	Hdshp Rate	Number	Hdshp Rate	Number
15-19	5,300	0.38%	20	0.28%
20-24	5,685	6.42%	365	4.31%
25-29	7,180	24.23%	1,740	8.77%
30-34	7,915	37.78%	2,990	6.95%
35-39	7,285	42.35%	3,085	5.15%
40-44	7,365	46.23%	3,405	4.41%
45-49	5,000	50.80%	2,540	4.10%
50-54	4,055	51.29%	2,080	5.43%
55-59	3,295	49.62%	1,635	8.19%
60-64	2,865	44.50%	1,275	10.65%
65-69	1,930	47.15%	910	19.43%
70-74	1,930	28.76%	555	17.62%
75+	2,125	24.24%	515	27.76%
Total	61,930		21,115	4,445

**1996 Forecast Family/Non-Family Households Breakdown**  
**Family Households**

Total Population 15+	Historic - R. Hill Headship Rates				Alternative - GTA Headship Rates			
	Hdshp Rate	HH's	91-96 Inc.		Hdshp Rate	HH's	91-96 Inc.	
15-19	7,014	0.38%	26	6	0.70%	49	29	
20-24	6,764	6.42%	434	69	7.30%	494	129	
25-29	7,251	24.23%	1,757	17	22.40%	1,824	-116	
30-34	9,103	37.78%	3,439	449	34.60%	3,150	160	
35-39	9,387	42.35%	3,975	890	40.90%	3,839	754	
40-44	8,805	46.23%	4,071	666	45.10%	3,971	566	
45-49	8,417	50.80%	4,276	1,736	47.10%	3,965	1,425	
50-54	5,909	51.29%	3,031	951	46.70%	2,760	680	
55-59	4,636	49.62%	2,300	665	45.20%	2,096	461	
60-64	3,615	44.50%	1,609	334	42.10%	1,522	247	
65-69	2,932	47.15%	1,382	472	38.40%	1,126	216	
70-74	2,045	28.76%	588	33	33.80%	691	136	
75+	3,725	24.24%	903	388	22.90%	853	338	
Total	79,602		27,792	6,677		26,138	5,023	

**Non-Family Households**

Total Population 15+	Historic - R. Hill Headship Rates				Alternative - GTA Headship Rates			
	Hdshp Rate	HH's	91-96 Inc.		Hdshp Rate	HH's	91-96 Inc.	
15-19	7,014	0.28%	20	5	0.80%	56	41	
20-24	6,764	4.31%	292	47	7.40%	501	256	
25-29	7,251	8.77%	636	6	13.50%	979	349	
30-34	9,103	6.95%	633	83	12.20%	1,111	561	
35-39	9,387	5.15%	483	108	10.20%	957	582	
40-44	8,805	4.41%	389	64	9.00%	792	467	
45-49	8,417	4.10%	345	140	8.90%	749	544	
50-54	5,909	5.43%	321	101	9.50%	561	341	
55-59	4,636	8.19%	380	110	11.20%	519	249	
60-64	3,615	10.65%	385	80	14.50%	524	219	
65-69	2,932	19.43%	570	195	19.70%	578	203	
70-74	2,045	17.62%	360	20	25.40%	519	179	
75+	3,725	27.76%	1,034	444	33.30%	1,240	650	
Total	79,602		5,846	1,401		9,087	4,642	

**Summary of Household Growth**

Age	FAMILY HOUSEHOLDS			NON-FAMILY HOUSEHOLDS		
	Historic	Alternative	Average	Historic	Alternative	Average
15-24	76	158	117	51	297	174
25-34	466	44	255	89	909	499
35-44	1,556	1,320	1,438	172	1,050	611
45-54	2,687	2,104	2,396	241	886	563
55-59	665	461	563	110	249	180
60-64	334	247	290	80	219	150
65+	893	690	791	659	1,032	846
Total	6,677	5,023	5,850	1,401	4,642	3,022

TOTAL HOUSEHOLDS			
Age	Historic	Alternative	Average
15-24	127	455	291
25-34	555	953	754
35-44	1,727	2,370	2,049
45-54	2,928	2,990	2,959
55-59	775	710	743
60-64	414	466	440
65+	1,552	1,722	1,637
Total	8,078	9,665	8,872

Source: Hemson Consulting Ltd., Forecast Model Based On Data From Statistics Canada.

Local household growth in Richmond Hill to 1996 has been estimated as a range by applying recent (1991) age-specific headship rates for the municipality (Richmond Hill) and those of the GTA. Using this approach, the municipality can appreciate the different household implications that could result from a population growth estimate if the rate of household formation by type was more similar to that of a broader geographic area. For example, in general the GTA as a whole has a greater proportion of young family households (under 35 years old) and non-family households than does Richmond Hill.

All of the steps in this analysis are designed to provide a clearer profile of the characteristics of a community's future population. How old they are, how many will live within a family, form their own household, how many are divorced, widowed or separated, how many are lone parents, etc. - all of which are prerequisites to determining a municipality's housing needs.

### ***Part 3: Income & Purchasing Power Forecast***

This section outlines the methodology used to assess middle income (30th to 60th income percentile) housing needs for a municipality within the Greater Toronto Area (GTA) over the next five years. As noted, Richmond Hill has been used to illustrate how the analysis could be carried out. However, it can be used for other municipalities at either a regional or area municipal level, and for a longer period.

To achieve this aim, a five-year forecast of household income is prepared (Figure 4). This income forecast is used to

estimate the household's future purchasing power using conventional affordability guidelines. The steps in this process are as follows:

- Determine, to the best degree of accuracy possible, the age-specific average household incomes of family and non-family households. Special data retrievals from Statistics Canada would be required to obtain such information and would be expensive to purchase. Published sources from Statistics Canada include the Census. However, even as the best income source, the Census, releases data on income for the year prior to the Census, about two years after the Census was taken, making the data three years old when it is released.
- A forecast of household income is then made, assuming a rate of real income growth. One percent per year has been assumed as an example, but other assumptions could certainly be tested.

Figure 4

**PART 3: INCOME & PURCHASING POWER FORECAST****Existing 1991 Profiles & Key Inputs**

Age	1991 Household Inc. Profile - 30th Percentile				1991 Household Inc. Profile - 60th Percentile			
	Richmond Hill		GTA		Richmond Hill		GTA	
	Family	Non-Fam.	Family	Non-Fam.	Family	Non-Fam.	Family	Non-Fam.
15-24	\$22,076	\$8,991	\$19,000	\$7,739	\$44,286	\$19,795	\$38,115	\$17,036
25-34	45,293	21,673	38,981	18,653	73,810	38,650	63,525	33,264
35-44	56,096	25,230	48,279	21,714	85,083	46,232	73,227	39,790
45-54	68,979	26,169	59,367	22,523	102,663	49,855	88,358	42,908
55-59	57,572	19,392	49,550	16,690	90,384	41,803	77,789	35,978
60-64	46,702	14,963	40,194	12,878	81,392	37,643	70,051	32,398
65+	33,684	15,500	28,991	13,340	54,351	22,411	46,778	19,289
<b>KEY INPUTS FOR AFFORDABILITY ANALYSIS</b>								
1.0% Real rate of increase in household incomes per annum								
8.8% Interest rate on mortgage								
25.0% Percentage down payment								
30.0% Of Household Income Available For Mortgage or Rent								

**1996 INCOME & PURCHASING POWER FORECAST****Family Households**

Age	30th Percentile Income			Purchasing Power		
	Historic	Alternate	Average	Historic	Alternate	Average
15-24	\$23,202	\$19,969	\$21,586	\$93,040	\$80,076	\$86,558
25-34	47,603	40,969	44,286	190,888	164,286	177,587
35-44	58,957	50,742	54,850	236,417	203,473	219,945
45-54	72,498	62,395	67,446	290,713	250,203	270,458
55-59	60,509	52,078	56,293	242,638	208,829	225,734
60-64	49,084	42,244	45,664	196,826	169,398	183,112
65+	35,402	30,470	32,936	141,962	122,183	132,072

**Non-Family Households**

Age	30th Percentile Income			Purchasing Power		
	Historic	Alternate	Average	Historic	Alternate	Average
15-24	\$9,450	\$8,134	\$8,792	\$37,893	\$32,616	\$35,254
25-34	22,779	19,604	21,192	91,341	78,613	84,977
35-44	26,517	22,822	24,669	106,332	91,514	98,923
45-54	27,504	23,672	25,588	110,290	94,924	102,607
55-59	20,381	17,541	18,961	81,728	70,340	76,034
60-64	15,726	13,535	14,631	63,062	54,275	58,668
65+	16,291	14,020	15,156	65,325	56,222	60,773

Age	60th Percentile Income			Purchasing Power		
	Historic	Alternate	Average	Historic	Alternate	Average
15-24	\$46,545	\$40,059	\$43,302	\$186,644	\$160,636	\$173,640
25-34	77,575	66,765	72,170	311,073	267,727	289,400
35-44	89,423	76,962	83,193	358,584	308,616	333,600
45-54	107,900	92,865	100,382	432,675	372,386	402,530
55-59	94,994	81,757	88,376	380,925	327,843	354,384
60-64	85,544	73,624	79,584	343,028	295,231	319,129
65+	57,123	49,164	53,144	229,063	197,147	213,105

Age	60th Percentile Income			Purchasing Power		
	Historic	Alternate	Average	Historic	Alternate	Average
15-24	\$20,805	\$17,905	\$19,355	\$83,426	\$71,798	\$77,612
25-34	40,622	34,961	37,791	162,891	140,192	151,541
35-44	48,590	41,820	45,205	194,845	167,696	181,271
45-54	52,398	45,097	48,747	210,115	180,836	195,476
55-59	43,935	37,813	40,874	176,179	151,630	163,905
60-64	39,563	34,051	36,807	158,647	136,542	147,594
65+	23,554	20,273	21,914	94,452	81,294	87,873

- Household purchasing power (the ability to pay) is derived from estimated income levels using assumptions such as debt carrying capacity, downpayment, interest rates, etc.). This can be completed for any income percentile in the 30th to 60th range, and in the illustrative example the 30th and 60th are presented to define a range of age-specific purchasing power. The specific assumptions used in this analysis are as follows:
  - 25 per cent downpayment
  - 8.75 per cent mortgage interest rate
  - 30 per cent of household income available for mortgage payment
  - 25 year amortization period

It is recognized that affordable house prices are extremely sensitive to changes in these parameters and the preparation of alternative sensitivity tests is highly recommended to test the extreme variability of results that can be triggered by modest changes in interest rates (for example).

In the Richmond Hill example, local household income profile at the 30th and 60th percentiles is higher than the GTA as a whole. If steps are to be taken to accommodate the housing needs of a broader area, then local housing prices would need to meet the limits as defined by the alternative (GTA) purchasing power profiles.

### B.3 CONCLUSION

This Appendix has outlined a complex process of integrating analyses of population, housing, and income that could be used to assess housing needs for a municipality, local or regional, in the GTA. For this report, Richmond Hill has been used to illustrate how such a housing needs assessment can be undertaken. However, the results of the analysis are intended to be illustrative as the 1996 population for Richmond Hill is still being assessed in light of recent York Region and Richmond Hill forecasts. It is also imperative that policy objectives and technical analysis are considered within the context of the housing needs assessment.











